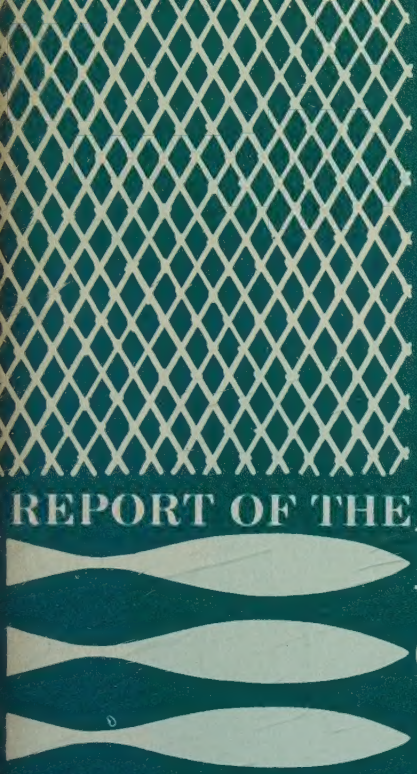

REPORT OF THE

BUREAU OF COMMERCIAL FISHERIES

FOR THE
CALENDAR
YEAR 1957

United States Department of the Interior
Fish and Wildlife Service
Bureau of Commercial Fisheries

REPORT OF THE
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Report of the Bureau of Commercial Fisheries for the Calendar Year 1957

This is the first report of the Bureau of Commercial Fisheries, an agency established in 1956 within the United States Fish and Wildlife Service of the Department of the Interior. This, however, is not the first annual Government report on fishery activities, for the United States Commissioner of Fish and Fisheries issued an annual report to Congress for the year 1872–73. The U.S. Bureau of Fisheries continued the reporting through 1940, after which fishery activities were described annually by the Secretary of the Interior in his departmental report to the President.

The present fishery report renews the original series and presents a contemporary chronicle of an ancient branch of American industry as well as a condensed record of the administrative actions of a government bureau as required by section 9(a) of the Fish and Wildlife Act of 1956.

Predecessor Organizations

Increased Government interest in the fisheries began after the Civil War when the New England shore fishermen had a series of poor seasonal catches. The fishing industry of that region believed that the stocks of fish had been reduced by excessive fishing and felt that the Government should take some action to counteract the decline. Thus in 1871, Congress, by joint resolution, established the office of Commissioner of Fish and Fisheries (Appendix G) "to prosecute investigations and inquiries on the subject, with a view of ascertaining whether any and what diminution in the number of the food-fishes of the coast and lakes of the United States had taken place; and, if so, to what causes the same is due; and also whether any and what protective, prohibitory, or precautionary measures should be adopted in the premises; and . . . report upon the same to Congress."

The Congressional resolution directed the President to appoint a civil officer of the Government to serve without salary as Commissioner. Spencer F. Baird, Assistant Secretary of the Smithsonian Institution, was so appointed in 1871 and began his investigations at once. With several assistants, he established summer headquarters at Woods Hole, Mass., the Cape Cod village which since has grown to be a world famous scientific center. He served as commissioner until his death in 1887.

The U.S. Fish Commission, thus, became the first Federal agency to be concerned with resource conservation. More than a full generation would pass before Theodore Roosevelt and Gifford Pinchot would provide dramatic leadership for the growing national conservation movement.

Baird's concept of the proper scope of his initial scientific and practical inquiries is well expressed in his report to Congress for the year 1872–73 (p. ii). The report reads as follows:

> The fish to which attention was more particularly directed during this year (1871) were the blue-fish, scup, tautog, sea-bass, striped bass, and menhaden.
>
> The opportunities furnished by the possession of a very perfect outfit of apparatus for the research in question were embraced to prosecute a general inquiry into the natural history of the deep seas along the coasts of the United States, as it was thought that the history of the fishes themselves would not be complete without a thorough knowledge of their associates in the sea, especially of such as prey upon them or constitute their food . . .
>
> The temperature of the water taken at different depths, its varying transparency, density, chemical composition, percentage of saline matter, its surface and under currents, and other features of its physical condition, were also carefully noted, as likely to throw more or less light upon the agencies which exercise an influence upon the presence or absence of particular fishes; in other words, the object in view was to make as complete explorations of the physical, natural, and economical features of the sea as those which have been attempted for the Western Territories, . . . the same warrant for an exhaustive research being thought to exist for the one as for the other, especially in view of the fact that the economical results to flow from a satisfactory solution of the various problems connected with the fisheries, might safely be considered as even more profitable in their immediate yield and availability than those to arise from the territorial survey.
>
> Finally, large collections of specimens of natural history were gathered for the National Museum, embracing duplicates in great number for distribution to the various scientific and educational establishments of the country.

Although new concepts have developed and more advanced scientific methods are now applied, the physical, natural, and economical features of the sea are still the field for research and development by the present Bureau of Commercial Fisheries.

In the second year of the Fish Commission's work, a new enterprise was added to scientific research, and a trend was initiated which had a profound effect upon the agency's administration and on the conservation movement. A private group (the American Fish-Cul-

turists Association—later the American Fisheries Society) prevailed on Congress to appropriate $15,000 for the Commission to undertake the work of "introducing or multiplying shad, salmon, and other valuable food-fishes throughout the country, especially in waters over which its jurisdiction extended, or which were common to several states, none of which might feel willing to incur expenditures for the benefit of other" (loc. cit. p. xvi). For many years fish culture dominated the Federal fishery program in the oversimplified belief that artificial propagation would increase the supply. Only lately has fish culture assumed its proper role as an important tool of fishery management.

In the early years of Federal Government supervision, statistical surveys and censuses of fishery production and industrial operation were undertaken also, and in 1911 the Alaska Fishery and Fur Seal Service was separated from the Division of Scientific Inquiry and made an operating division of the Bureau of Fisheries.

The U.S. Fish Commission was an independent agency until 1903 when it became the Bureau of Fisheries in the U.S. Department of Commerce and Labor and remained with the Department of Commerce when the new Department of Labor was created in 1913. In 1939 the Bureau was transferred to the Department of the Interior and in the following year was consolidated with the Bureau of Biological Survey to form the Fish and Wildlife Service.

Organization and Functions

Fish and Wildlife Act of 1956

Owing to the widespread feeling that the fishery industries of the country merited greater consideration and support than had been accorded them in recent years, Congress enacted the Fish and Wildlife Act of 1956, which declared a national fishery policy, reorganized the Fish and Wildlife Service by creating the two component Bureaus, and assigned additional responsibilities to the new Bureau of Commercial Fisheries. Because of its scope and importance, the text of this Act is quoted in full in Appendix A of this report.

The Fish and Wildlife Act of 1956 recognizes fish, shellfish, and wildlife as living, renewable resources capable of making a valuable continuous contribution to the national economy, food supply, and health, recreation, and well-being of our citizens. When properly developed, properly managed, and properly utilized, these resources are capable of being greatly increased. The alternative is destruction by neglect or unwise exploitation. The Act also recognizes that the fisheries directly and indirectly offer employment to a substantial number of citizens and strengthen the defense of the United States

through the provision of a trained seafaring citizenry and action-ready fleets of seaworthy vessels.

With due regard to the rights of the public, the Act declares the objective to be the stimulation of proper development of the resources and of a strong, prosperous, and thriving fishery and fish-processing industry.

Consistent with the public interest and the constitutional functions of governments, the Act declares that the following privileges are essential to the fishing industry's prosperity and fulfillment of its proper function in national life:

1. Freedom of enterprise—freedom to develop new areas, methods, products, and markets, as well as freedom from unnecessary restrictions that conflict with or ignore economic needs.

2. Protection of opportunity—maintenance of an economic atmosphere in which domestic production and processing can prosper; protection from subsidized competing products; and protection of opportunity to fish on the high seas.

3. Assistance—assistance consistent with that provided by the Government for industry generally, and including among other things (a) services to provide current information on production and trade, market promotion and development, and an extension service; (b) research services for economic and technologic development and resource conservation; and (c) resource management to assure the maximum sustainable production for the fisheries.

The Act continues all of the former Government responsibility for fishery matters and forbids interference with the rights of the States or interference with the authority of any international commission of which the United States is a member.

To carry out the national fishery policy, the Fish and Wildlife Act of 1956 specifically authorizes continuing investigations, dissemination of information, and periodical reports to the public, the President, and Congress with respect to the following matters:

1. The production and flow to market of fish and fishery products domestically produced, and also those produced by foreign producers which affect the domestic fisheries.

2. The availability and abundance and the biological requirements of the fish and wildlife resources.

3. The competitive economic position of the various fish and fishery products with respect to each other, and with respect to competitive domestic and foreign-produced commodities.

4. The collection and dissemination of statistics on commercial fishing.

5. The improvement of production and marketing practices in regard to commercial species and the conduct of educational and extension services relative to commercial fishing.

6. Any other matters which in the judgment of the Secretary are of public interest in connection with any phases of fish and wildlife operations.

The Act also authorizes the Secretary of the Interior to:

1. Make loans for financing and refinancing of operations, maintenance, replacement, repair, and equipment of fishing gear and vessels and for research into the basic problems of fisheries.

2. Develop and recommend measures which are appropriate to assure the maximum sustainable production of fish and fishery products and to prevent unnecessary and excessive fluctuations in such production.

3. Study the economic condition of the industry, and whenever he determines that any segment of the domestic fisheries has been seriously disturbed either by wide fluctuation in the abundance of the resource supporting it, or by unstable market or fishing conditions or due to any other factors, he shall make such recommendations to the President and the Congress as he deems appropriate to aid in stabilizing the domestic fisheries.

4. Develop and recommend special promotional and informational activities with a view to stimulating the consumption of fishery products whenever he determines that there is a prospective or actual surplus of such products.

5. Take such steps as may be required for the development, advancement, management, conservation, and protection of the fisheries resources.

6. Make reports to the President and the Congress on the trend of fishery imports into the United States and their effect on domestic fisheries, and, when such reports are requested by the Tariff Commission or a segment of the domestic industry producing like or competitive products, make such reports to the Commission.

Public Law 466, 83d Congress

The Bureau continued the activities financed by the funds made available under Public Law 466, 83d Congress (known as the Saltonstall-Kennedy Act of 1954). This Act provides for the transfer to the Secretary of the Interior an amount equal to 30 percent of the gross receipts from duties collected under the customs laws on fishery products. These funds are to be used by the Secretary of the Interior for: (1) promoting the free flow of domestically produced fishery products in commerce by conducting fishery technological, biological, and related research programs, (2) developing and increasing markets for fishery products of domestic origin, and (3) conducting any biological, technological, or other research pertaining to American fisheries. The text of this Act is quoted in full in Appendix B.

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Organization and Functions of Units

The Bureau of Commercial Fisheries has a Headquarters Office in Washington, D.C., and a field organization. The Headquarters Office consists of the Office of the Director, Office of Administration, Office of Loans and Grants, and three technical divisions—Biological Research, Industrial Research and Services, and Resource Management. The field organization is divided into five regions in the continental United States, each with subordinate installations (approximately 80 altogether), and an investigation office in Hawaii. The chief executive of the Bureau is the Director. The regions are directed and supervised by the Regional Director, who reports to the Director. The operation of subordinate field installations is the responsibility of officials who report to the Regional Directors. A chart of the organization is presented in Appendix C.

Headquarters Organization

The offices and divisions with their respective branches that make up the Headquarters Office are listed here and the functions of each given.

Office of the Director.—The Director is responsible for the preparation and development of program objectives and budgets, the formulation of policy, and the direction and supervision of all activities of the Bureau. Internal audit is also a function of the Director's Office. The Assistant Director shares these responsibilities and, in the absence of the Director, performs his duties.

Office of Loans and Grants.—This office administers a fisheries loan fund to finance and refinance the operations, maintenance, replacement, repair, and equipment of fishing gear and vessels and to grant money for research into the basic problems of fisheries. It also administers a fishing vessel mortgage insurance program.

Office of Administration.—An Office of Administration within the Headquarters Office was established during the year. This office, during its initial organization, assumed limited responsibilities. The administrative service functions, personnel recruiting, and maintenance of files and communications were performed by the existing administrative staff of the Fish and Wildlife Service operating within the Bureau of Sport Fisheries and Wildlife.

Division of Biological Research.—This Division exercises staff supervision over commercial fisheries investigations of the nature, extent, and causes of the varying abundance of important food fish and shellfish. It develops methods for conserving, developing, and managing fishery resources and recommends research for developing shellfish cultural practices and the prevention and control of diseases and pests. This Division has three branches:

1. The Branch of Anadromous and Inland Fisheries conducts staff activities relating to investigations of anadromous and inland fish, such as lake trout, lampreys, salmon, shad, and striped bass. It is also concerned with the passage of fishes over and around dams and other obstructions.

2. The Branch of Marine Fisheries conducts staff activities relating to investigations of commercially important marine fish and shellfish, for example, tunas, sardines, and other herring-like fish; bottom fish, such as haddock, flounders, cod, and redfish; crustaceans, such as shrimp; and many others. It also supervises biological and physical oceanographic programs carried on in the field.

3. The Branch of Shellfisheries conducts staff activities relating to investigations of mollusks of inshore waters, including oysters, clams, and their predators, such as green crabs, sea stars, and drilling snails.

Division of Industrial Research and Services.—This Division exercises staff supervision over fishing gear investigations, exploratory fishing, and the collection of statistics and other data to promote the efficient use of products of marine or fresh-water origin, to determine the economic position of the fishing industry, to assist the industry in developing markets for fishery products, and to provide information on production trends, employment, supplies, areas of capture, and related subjects. The Division also processes statistics and other information on fish marketing and technology. The branches and their functions are:

1. The Branch of Economics plans, organizes, and prepares reports on the economic position of the fishing industry within the national economy; on production, distribution, and consumption of fishery products; on the economic effect on the industry of the technological and biological developments within the industry; on price levels, marketing of fishery products and competitive products, and transportation rates and services; and on fishery cooperatives. It also conducts fundamental research on tariff and trade problems.

2. The Branch of Exploratory Fishing and Gear Research conducts staff activities relating to fishing gear investigations and the operation of exploratory fishing vessels to locate and determine the nature of local and high-seas fishery resources.

3. The Branch of Market Development conducts staff activities to promote the use of fish by means of school-lunch programs, the sale of fish in frozen food centers, distribution of test kitchen reports, and demonstrations of fish cookery. It also encourages the expansion of foreign markets for fishery products, the development of new fishery products, the use of underutilized species, and the promotion of domestic fishery commodities and byproducts. In addition the Branch

analyzes and forecasts fishery marketing conditions and formulates plans for handling emergency demand and supply situations.

4. The Branch of Market News conducts staff activities to aid the orderly marketing of fishery products and byproducts by collecting, publishing, and distributing daily information on production, receipts, supply, demand, market prices, cold-storage holdings, and imports and by providing news of current fisheries developments in the United States and foreign countries.

5. The Branch of Special Reports studies, prepares, and coordinates reports on foreign and domestic fishery situations and the marketing of foreign-produced fishery products that affect the domestic fisheries. It also reviews and analyzes foreign trade and tariff problems; directs, services, and appraises the foreign reporting program for fisheries; coordinates and prepares requests for information from foreign posts; and services the fishery attaché program.

6. The Branch of Statistics tabulates and publishes data on employment of men in the fishing industry; fishing craft, types and amount of gear; volume and value of the catch; production of manufactured fishery commodities; stocks of frozen products; and related information. It also performs staff activities relating to statistical matters in the field.

7. The Branch of Technology conducts staff activities relating to investigations for the purpose of improving and developing methods for handling, processing, preserving, storing, and transporting fishery products and byproducts, including the determination of their composition, properties, and nutritive values; improving or correcting sanitation practices and plant operations; developing and improving standards of quality, condition, quantity, grade, and packaging of fishery commodities; and developing procurement standards and specifications for Federal and State agencies. The Branch also approves standards and develops plans for inspection and certification service for fishery products.

Division of Resource Management.—This Division exercises staff supervision over Alaska fisheries and fur seal programs and the Columbia River fisheries development, in cooperation with the States. It is responsible for enforcing laws and regulations concerning the management of commercial fisheries and sea mammals, including laws and regulations relating to international agreements and commissions. The Division also determines the Bureau's requirements for commercial fish produced in hatcheries operated by the Bureau of Sport Fisheries and Wildlife. This Division has three branches:

1. The Branch of Alaska Fisheries conducts staff activities relating to the management of salmon and other important commercial fisheries of Alaska.

2. The Branch of Columbia River Fisheries conducts staff activities relating to the Columbia River Fishery Development Program and including the production of commercial fish hatcheries operated by the Bureau of Sport Fisheries and Wildlife.

3. The Branch of Sea Mammals conducts staff activities relating to seals, sea otters, whales, and other sea mammals, including research on and management of the fur seal resource and the processing and sale of sealskins, and exercises staff supervision over the administration of the Pribilof Islands.

Field Organization

The field installations within the Regions where the program operations of the Bureau are performed are mainly biological and technological laboratories, market news, market development, and statistics offices. All these installations are under the supervision and control of the Regional Offices. The five Regions, their headquarters, and the States they include are as follows:

Region 1 (Pacific).—Seattle, Wash.: Washington, Oregon, California, Nevada, Idaho, Montana, Utah, Arizona, Wyoming, Colorado, and New Mexico.

Region 2 (Gulf and South Atlantic).—St. Petersburg, Fla.: North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas.

Region 3 (North Atlantic).—Gloucester, Mass.: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, New Jersey, Maryland, Delaware, Virginia, and West Virginia.

Region 4 (Great Lakes and Central).—Ann Arbor, Mich.: North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Minnesota, Iowa, Missouri, Arkansas, Wisconsin, Illinois, Kentucky, Tennessee, Michigan, Indiana, and Ohio.

Region 5 (Alaska).—Juneau, Alaska.

A part of the field organization is Pacific Oceanic Fishery Investigations (POFI) with headquarters at Honolulu, Hawaii, from which oceanic fishery investigations are conducted. POFI does not come under the supervision of any of the Regions, but is immediately responsible to the Office of the Director of the Bureau.

Budget and Physical Property

For the fiscal year 1957, the Congress appropriated $28.3 million to carry out the program of the Bureau of Commercial Fisheries (Appendix D). Of this amount, $10 million were to capitalize the fisheries loan fund; $8.2 million were from annual definite appropria-

tions; $6.6 million from Public Law 466 (known as the Saltonstall-Kennedy) allocations; $2.7 million from funds transferred by the Corps of Engineers and the State Department; and $0.6 million made available to the Bureau by the Great Lakes Fishery Commission for sea lamprey control.

Field laboratories and stations, vessels, and installations on the Pribilof Islands are the principal physical properties of the Bureau (Appendix E). There are 20 large laboratories and installations, 57 smaller stations and offices, and 34 vessels of 40 feet and longer.

Condition and Trends of the Fisheries

The commercial fisheries of the United States and Alaska in 1957 caught 4.8 billion pounds of fish valued at $351 million (Appendix F). Although this was 474 million pounds (9 percent) and $18 million less than the 1956 record of 5.3 billion pounds and $369 million, it was still the seventh largest catch on record. The decline from the previous year was caused by sharply reduced landings of menhaden, salmon, and tuna and somewhat smaller catches of anchovies, Atlantic ocean perch, haddock, Pacific sardines, and shrimp. The major catches in greater volume in 1957 were crabs, sea herring, Pacific and jack mackerel, and trawl-caught industrial fish.

The Atlantic Coast States accounted for 57 percent of the catch, followed by the Pacific Coast States with 17 percent; Gulf States, 15 percent; Alaska, 8 percent; and the Great Lakes and Mississippi River States, 3 percent. San Pedro, Calif.—with landings of 333 million pounds worth $25 million—was the principal United States fishing port in both volume and value. The other leading ports in order of the volume of fish caught were Lewes, Del.; Reedville, Va.; and Gloucester, Mass.

Approximately 10 percent of the catch was taken on the high seas off foreign coasts. Landings from international waters were principally ocean perch and haddock taken off the east coast of Canada, shrimp off the east coast of Mexico, tuna off the Pacific coast of Central and South America, and trawl-caught bottom fish off British Columbia.

Of the total volume of fish caught by the commercial fisheries of the United States and Alaska in 1957, about 45 percent was used for the manufacture of industrial products and bait. Thirty percent was marketed fresh or frozen, and 23 percent, canned. The remaining 2 percent was cured.

Imports provided one-third of the United States supply of fishery products in 1957. This country imported 26 percent of industrial fishery products and over 38 percent of its edible fishery products.

The 1957 imports of edible fishery products reached a record 884 million pounds. Ten years earlier the receipts of these fishery products from foreign countries were only slightly over 400 million pounds, less than half of the 1957 imports.

The per capita consumption of fishery products in the United States amounted to 10.1 pounds in 1957. More canned tuna was eaten than ever before; consumption of canned salmon and sardines was far below normal.

Some of the highlights of the 1957 fisheries were:

1. Menhaden continued to rank first in volume with a catch of 1.7 billion pounds—35 percent of the total catch of all species taken by the United States and Alaska fishermen.

2. Shrimp supported the most valuable fishery of the year, yielding a record $73 million, 21 percent of the total amount paid United States and Alaska fishermen for all fish and shellfish in 1957.

3. The 11.9 million standard case pack of canned tuna was the largest in history. The gain was due to a sharp increase in frozen tuna imports, which reached a peak of 173 million pounds. Nearly half of the 1957 supply of canned tuna was derived from imports. The United States tuna catch declined sharply during the year, amounting to only 297 million pounds—33 million pounds less than in 1950.

4. The Pacific salmon fishery continued at a low level. The catch was only 265 million pounds. This was 59 million pounds less than in 1956 and 526 million pounds less than the 1936 record of 791 million pounds. The 3.2 million standard case pack of canned salmon was one of the smallest in the present century.

5. The Pacific sardine stock available to the United States fishermen continued to be small. A catch of only 46 million pounds was made. This was the third smallest catch since 1918 and only 3 percent of the 1936 record catch of 1.5 billion pounds.

6. The 1957 supply of both northern and spiny lobsters broke all previous records. A near record domestic catch and large imports of northern lobsters totalled 52 million pounds. The supply of spiny lobster tails was also the greatest in history as a result of a catch of nearly 5 million pounds and record imports of over 28 million pounds, principally from Australia and the Union of South Africa.

7. The canning of fish for animal food continued to expand; the pack increased to 7.2 million standard cases. The use of canned fish as cat food has grown at an amazing rate since the end of World War II. In 1947 the pack amounted to less than 1 million standard cases; in 1949 it was nearly 2 million cases; and in 1952, 3.5 million. Over 5 million cases were canned in 1955, and nearly 6.7 million in 1956.

Developments in the Fisheries

Domestic Fisheries

The fisheries are dynamic industries; consequently their activities are continually undergoing change. Such factors as fluctuating fish supplies, technological developments, and the public's changing food preferences often produce effects that may be dramatic, for example, the collapse of the California sardine industry following the disappearance of the sardines in the late 1940's, or may be as gradual as the decline of the salt-fish industry when the public showed increasing preference for frozen fish fillets during the first few decades of this century.

Some of the more significant 1957 developments were in our major fisheries: tuna, groundfish, salmon, menhaden, shrimp, and oysters.

Although the consumption of tuna has increased almost continuously for many years, serious problems faced the United States tuna fleet in 1957. Tuna fishermen were adversely affected by increased costs of vessel construction and operation, declining prices for their catch of fish, and the competition of increased imports of frozen and canned tuna, principally from Japan. These problems were intensified by labor and price difficulties which kept the tuna industry in a turmoil during much of the year.

Several positive actions gave encouragement to the tuna industry. An association of California tuna clipper owners began an auction system of selling their own fish, so that their vessels could be unloaded promptly and return to fishing without the 4- to 5-week layovers that had become common. Also California tuna canners, boat owners, and fishermen's unions accepted the Federal Trade Commission's consent decree regarding the marketing of tuna. This move clarified the legality of some of the pricing policies and marketing practices of the industry.

In the North Atlantic, exploratory longline fishing by the Bureau of Commercial Fisheries trawler *Delaware* revealed that several species of tuna were available north of their previously known winter ranges and in waters within 15 hours' sailing time of Nantucket Lightship, Mass. Additional cruisers at various seasons of the year explored the waters off Nova Scotia to the north of the Bahamas—an area exceeding 68,000 square miles. The results drew attention to a new valuable pelagic resource in a region that many scientists once believed to be relatively barren of important fish.

The New England groundfish industry continued to operate under severe difficulties caused mainly by competition from imported frozen fish fillets and frozen fish blocks. This resulted in lower United States landings of all groundfish species (cod, haddock, hake, pollock,

cusk, and ocean perch). The 1957 New England groundfish catch was only 32 percent of the volume and 30 percent of the value of the total catch for that area. In 1950 these items represented 46 percent of the volume and 42 percent of the value of the catch. In a 1957 report, based on a 1956 investigation, the United States Tariff Commission pointed out the effect of imports upon the New England groundfish industry and unanimously recommended a 50 percent increase in import duties on frozen groundfish fillets. In the interest of national policy, the President decided to retain the present import duties.

In Bristol Bay, the major source of the Alaska red salmon, the catch was apparently considerably less than would normally have been made from the supply of fish in the ocean. There was a large active Japanese high-seas salmon fleet west of the Provisional Line at 175° West Longitude, and their catches of red salmon averaged about a million fish a day for a period of about 10 days. This heavy Japanese catch consisted largely of Bristol Bay red salmon which would have eventually left the feeding areas for Alaskan spawning grounds. Consequently there was a reduction in the number of fish available to U.S. fishermen.

In recent years the menhaden fishery, one of our oldest major fisheries, has made giant strides in utilizing modern fish-catching techniques. Improved methods for locating fish schools are being used increasingly, thus shortening the amount of vessel time required to search for the fish. Another of the modern techniques is the use of large pumps on vessels to reduce the time needed for loading and unloading. Following successful tests during 1956, the "power block"—a mechanical seine-hauling rig designed on the west coast for tuna and salmon seining—was introduced in the Chesapeake menhaden fishery in 1957. Designed to haul the heavy net, the block reduces the number of fishermen needed on a vessel and also shortens the time for hauling the net in. During the year approximately half the menhaden fleet installed power blocks.

The valuable shrimp fishery, which dominates the South Atlantic and Gulf of Mexico fisheries, continued to be an important factor in the U.S. fishing industry. The value of the shrimp catch increased for the fourth consecutive year and approached the peak record of 1953. The landings of shrimp declined during the same 4-year period, but higher average prices per pound have compensated for this decreasing yield.

There were several important developments in the 1957 shrimp fishery. During the year the southern shrimp industry engaged in widespread conversion from single-trawl to two-trawl rigs, for many shrimp fishermen were convinced that towing two somewhat smaller

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trawls took more shrimp and reduced operating expenses. By the end of 1957 this more efficient method was widespread throughout the Gulf of Mexico. Small-scale commercial utilization in 1957 of a southern deep-water royal red shrimp was reported, and landings amounted to nearly 70 thousand pounds. This fishery appeared to have great potentialities for large shrimp trawlers with sufficient power and proper gear to operate offshore in deep water. Concern over the need for conservation of Dry Tortugas shrimp resources in the Gulf of Mexico stimulated the United States and Cuban Governments to begin negotiations for an agreement.

Oyster growers and government agencies were disturbed over the future of the declining Middle Atlantic oyster industry. A combination of factors, mostly of a biological nature, continued to impair attempts to rebuild the industry. A serious situation has resulted from the Long Island oysters' failure to provide a satisfactory set of seed oysters during the last 10 years. In addition, starfish have decimated the oysters, and, as a further complication, a severe mortality of oysters during the spring of 1957 was reported in Delaware Bay. The 1957 Middle Atlantic oyster landings were 8 million pounds; this amount was less than half the production 5 years earlier.

Federal Legislation

During 1957 Congress considered a great many bills that concerned the commercial fishing industry; however, only one important bill received final legislative approval. It concerned the Alaska salmon fisheries. This Act repealed the rigid spawning escapement provisions in the law that regulated and controlled the Alaska salmon. Through the new law, salmon escapement is now regulated as management and research may decide.

Congress considered a number of other bills concerning the management and control of Alaska fisheries. Although final action was not accomplished on any of these bills, they are included in this summary of significant legislation because of their variety and the Congressional interest shown in them. The bills that would have accomplished the most sweeping changes were those proving Alaska statehood and amending the Alaska Organic Act to transfer management and control of fish and wildlife to the Territory. Some bills on this subject were more specific in their objective, such as those proposing the elimination of trap fishing or providing bounties for destroying predators of salmon and halibut.

Congress considered but took no final action on bills to give the commercial fishing industry special assistance or to remove some special privileges. Those bills giving aid would have increased the fishery loan fund provided by the Fish and Wildlife Act of 1956 from $10 million to $20 million and amended the Merchant Marine Act of

1936 to provide assistance in the construction of fishing vessels. Removal of special privileges are embodied in several bills. One would have designated as "exempt" only those trucks operated by the producer. Another would have reduced or eliminated the present Federal wage-and-hour law exemption that benefits the commercial fishing industry.

Congress gave considerable attention, but made no final decisions concerning the industry's economic status. The problem of competition from imports resulted in the introduction of bills proposing import duties or quotas for shrimp and tuna, a tightening of the provisions of the Anti-dumping Act of 1921, and an easing of the escape clause procedures of the Tariff Act.

A bill to authorize research and experimentation in the commercial production of fish on flooded rice acreage was of sufficient interest to pass the Senate but did not receive House approval. Of importance to the Bureau's long-range program were bills to require consideration of fish and wildlife conservation problems in the planning stages of flood control, navigation, or reclamation projects. In the same category were bills to authorize studies on the effect of insecticides upon the Nation's fish and wildlife resources.

Finally, because of repeated cases of unwarranted seizures of American fishing vessels by foreign powers, Congress gave serious consideration to several bills which would have made protective action mandatory by the United States in such cases. The bills were not passed.

A chronological list of legal authority granted to the Bureau and its predecessors is given in Appendix G.

International Developments

An encouraging sign for the future is our increasing responsibilities with international treaties intended to ensure wise utilization of the marine resources that we share with other countries. As fishing vessels extend their operating ranges and the demand for marine products mounts, international agreement will be increasingly important to protect our traditional fisheries. During 1957 there were several important international developments that affected our fisheries.

Since 1941, when Japan withdrew from the 1911 Fur Seal Convention, no formal agreement bound all four governments concerned—the United States, Canada, Japan, and the U.S.S.R.—to refrain from pelagic sealing and to abide by the other provisions of the original treaty. After negotiations extending through several years, representatives from these four nations met in Washington, D.C., in November 1955 to consider a new treaty for protection of the North Pacific fur seals. They agreed that further knowledge of fur seals

and fur seal management was needed before a permanent treaty could be drafted, but the participants formulated an Interim Convention on Conservation of North Pacific Fur Seals. This document was concluded in February 1957 and became effective in October 1957 upon ratification by the four signatories. The objective of the treaty—to achieve the maximum sustainable productivity of the fur seal resources with due regard for other living marine resources—is to be realized through international cooperation and through coordination of a 6-year research program directed by the North Pacific Fur Seal Commission.

In December 1956, United States and Canadian delegates drafted a protocol to the Sockeye Salmon Convention of 1930, extending the same type of protection to the pink salmon fisheries of the Fraser River system as that already provided the sockeye salmon fisheries of that system. The protocol became effective on July 3, 1957, following ratification by the two governments concerned, and implementing legislation was enacted on July 11, 1957.

Threat of an offshore net fishery for salmon off the British Columbia coast caused concern among fishing industry members because it would place an added drain on a resource already fully exploited by existing inshore fisheries. Meetings were held with representatives of Canada and the States of Washington, Oregon, and California with a view toward obtaining legislation to control such fishing along this coast. It was agreed by all concerned that such control was a necessary conservation measure. On July 24, 1957, the North Pacific Fisheries Act of 1954 was amended to extend Federal regulatory jurisdiction over fisheries to the high seas off British Columbia. Regulations implementing this legislation prohibited U.S. nationals from net fishing offshore for salmon, thus closing the gap between the southern boundary of Alaska and the State of Washington. Similar action was taken by the three Pacific Coast States, and the Canadian Government, by order in council, also prohibited such offshore fishing by its nationals.

The Senate ratified changes made in two other international fisheries agreements. Ratification was given to a change in the International Convention for the Northwest Atlantic Fisheries to allow the Commission created by this convention to hold its annual meetings outside North America if so desired. Also ratified were amendments to the International Convention for the Regulation of Whaling to allow for the use of helicopters in locating whales and to provide for "neutral" observers from another country on factory ships.

Revised regulations governing the taking of haddock within Subarea 5 of the Northwest Atlantic Ocean by trawl fishermen under the jurisdiction of the United States became effective October 1, 1957.

These new regulations apply to the cod fisheries as well as the haddock fisheries. This was the first time that cod fishermen were brought under regulation. Under this amendment, fishermen primarily seeking species other than haddock or cod are exempted from the net size limit if their take does not exceed 10 percent of all trawl-caught fish during any one year. The annual exemption had long been desired by a large number of New England trawl fleet operators whose catches of haddock and cod are incidental to those of other species.

In 1957, the U.S. fishing industry was faced with a number of serious problems brought about by foreign developments. Since World War II, the trend has been for most foreign countries to expand their fisheries, and a significant part of this expansion was stimulated by export possibilities to the lucrative U.S. market. The United States was importing in increasing quantities Japanese tuna, in the form of loins, discs, frozen, and canned. Imports of frozen blocks and slabs of groundfish fillets from Canada and Northern Canada and Northern European countries were also creating market problems for segments of the New England fishing industry. In addition, imports of shrimp began to provide a significant percentage of the U.S. supply.

At the same time, U.S. fishery products were encountering obstacles to sales abroad, owing to restrictions on dollar sales and to lower prices of products from third countries. Canned salmon, canned shrimp, frozen salmon, mild-cured salmon, and canned California sardines were among the U.S. products for which markets were being sought abroad; sales, however, were negligible.

Operations and Accomplishments

Principal Accomplishments

The 1957 accomplishments of the Bureau of Commercial Fisheries were numerous, as befits a government agency with such widespread interests. Only the principal ones are listed here.

Administrative Changes

The Fish and Wildlife Act of 1956 established the Bureau of Commercial Fisheries as an autonomous agency under the Office of the Commissioner of Fish and Wildlife, and this action brought on a host of administrative problems that were solved in 1957. The division of funds, personnel, and property among the three organizations involved in the Act was acomplished. Lines of authority and areas of responsibility were established. Separate Regional Offices for the Bureau were activated.

North Pacific

Fur seal management.—The Interim Convention on Conservation of North Pacific Fur Seals, signed by the United States, Canada, Japan, and the U.S.S.R., became effective on October 14, 1957. The treaty continued the fur seal conservation practices that appeared in the Fur Seal Convention of 1911. Under the original treaty, the Pribilof Islands, Alaska, herd was rebuilt from 200,000 to 1,500,000 animals in 30 years. The new convention provides for the operation of a Commission, allows Canada and Japan to share in the sealskin harvests of the United States and the U.S.S.R., and requires that fur seal research be the basis for perpetual use of the resources.

Fur seal harvesting.—During 1957 sealing operations on the Pribilof Islands produced 46,195 male and 47,423 female sealskins. Since the season's production of pelts was made before the new convention became effective, the usual 20 percent of the take was allocated to Canada. The United States' share of sealskins is processed, dyed, and sold under government contract. At the 1957 semiannual auctions, 56,599 skins were sold for $2,851,181 after deduction of selling and processing costs. The Government also received $8,598 from special sales of other skins. Byproducts, including meal and oil, were sold for $105,299.

Trawling for groundfish and shrimp.—Exploratory fishing operations resulted in important commercial discoveries during the year. Groundfish trawling off the coast of Southeastern Alaska located quantities of Pacific ocean perch. Extensive shrimp resources were discovered in the Shumagin Islands area of Alaska. For the first time, shrimp discovered off the coast of Washington in earlier cruises by the Bureau's exploratory fishing vessel *John N. Cobb* were caught for commercial purposes. Approximately 2,400,000 pounds were landed.

Alaska fishery management.—For many years the Bureau has had the responsibility for managing the Alaska fisheries, and in 1957 the management program continued at about the same level. One significant change in the salmon regulations was the requirement that both fisherman and gear be registered for the area of the fisherman's choice, after which neither could be transferred to another area within the same year without the prior approval of the Regional Director. As in other recent years, special emphasis was given to enforcement of regulations to prevent depletion of the fisheries, particularly in view of certain curtailed fishing seasons designed to rehabilitate the pink salmon runs.

Lake productivity studies.—Intensive studies were made on three red salmon lakes on the Alaska Peninsula to determine the basic factors which limit production of phytoplankton on which fish-food

organisms are dependent. Researchers found that the deficiency of either magnesium, phosphorus, or nitrate in the waters of these lakes was at times limiting production of phytoplankton. Magnesium and nitrate appeared to be the more critical items. In one lake, bottom sediment extracts were introduced into cultures, and this resulted in stimulating the growth of phytoplankton. Results of these water quality studies provide a basis for evaluating favorable water quality conditions for fish.

Lake fertilization.—Analysis of the effects of fertilizing a small red salmon lake on Kodiak Island, Alaska, during the years 1950 through 1956 showed that fertilization brought about an increase in size of seaward-migrating red salmon. Evidence was found that these larger migrating fish survive in greater numbers at sea. From these studies it appears that fertilization may be a method for increasing production of red salmon.

Fish behavior studies.—Through research on fish behavior, methods were developed for guiding fish to desired areas and protecting them from harmful conditions, such as power plant turbines and irrigation ditches. Electrical barriers were designed to operate effectively with low power consumption and high efficiency. Fishway research at Bonneville Dam on the Columbia River showed that the swimming abilities of steelhead trout are superior to those of chinook salmon and that the large fish of both species can progress in higher water velocities than small fish. A sonic tag was developed to track salmon in spawning streams and observe their reactions to the environment.

Columbia River Fisheries Program administration.—The Bureau assumed the administration of the Columbia River Fishery Development Program in 1957. The fish and game agencies of Washington, Oregon, and Idaho and the Bureau cooperate in this program, which is financed by U.S. Army Corps of Engineers' funds. Accelerated development of Columbia Basin Federal water-use projects for hydroelectricity, navigation, reclamation, and flood control has damaged the habitat of salmonoid fishes; the purpose of the development program is to mitigate these fisheries' damages. Idaho became an active participant in the program for the first time in 1957.

Since the program began in 1948, there have been a number of improvements made. Fifteen new or reconstructed salmon and steelhead trout hatcheries have been placed in operation. Also, stream clearance and fish ladders at falls have made many miles of stream available for salmon and steelhead spawning. Over 400 screens have been installed to prevent loss of fish in irrigation diversion ditches. In 1957 construction began on three new hatcheries and two major fishways. Hatcheries operating under the program released 65 million salmon and steelhead trout during fiscal year 1957. The Bureau also cooperates with the Bureau of Reclamation, Corps of Engineers,

power companies, and State agencies to provide necessary fish protective facilities for each water-use project.

Crab sales promotion.—The Pacific Northwest Dungeness-crab industry, faced with excessive inventories, dropping prices, and diminishing markets, requested and received Bureau marketing assistance. As a result, substantial new markets for this product were developed in Florida, and stability was restored to the Pacific Northwest industry.

California

Albacore migrations.—Explorations during the year in the central and eastern Pacific and in northern areas off the west coast of North America, combined with migration information from tagging studies, show that Japanese and American fishermen are exploiting the same albacore stocks. Of seven albacore tag returns, two were from fish caught off the American west coast near where they had been tagged, but two others were recovered 4,000 miles distant on the other side of the Pacific less than a year after tagging. Two more of the seven returns were from fish tagged in mid-ocean. One of these was recovered in the Japanese longline fishery, the other in the American west coast fishery. The seventh return was from a fish tagged off California and retaken in the Japanese fishery a year later.

Sardine population dynamics.—California sardine studies have shown an inverse correlation between population size and fish length and condition factor. This association may represent a cause and effect relationship by which high population levels result in factors that lead to lower populations, such as less available food per fish.

Canned-tuna research.—Analysis of the chemical constitution of the natural pink pigment in canned tuna permitted researchers to determine the character of the oxidative processes that transform the natural color to the commercially less desirable brown and green colorations sometimes observed.

Gulf of Mexico

Red tide studies.—Research has lead to the successful culture of the microscopic red tide organism, *Gymnodinium*, in sterile culture, making possible for the first time studies of its nutrient requirements. Copper is extremely toxic to the organism. Studies are underway to determine if cheap copper ore can be used as an effective control material. Spraying of copper sulfate dust over outbreaks at sea was shown to be practically effective but impractical because of high application costs.

Increased shrimp statistics collection.—Collection of detailed data on shrimp catches was extended to the South Atlantic States in 1957

by the Bureau. Monthly and annual reports on catches of shrimp by species and size categories were issued for each State in the area. Collection and tabulation of these data made available detailed information on shrimp catches off of the South Atlantic and Gulf States, where over 90 percent of the domestic catch of shrimp is taken.

Atlantic Coast

Shad management.—Research on shad in the Connecticut and Hudson Rivers has shown that, at population levels prevailing during the past 15 years, there is a direct relationship between numbers of spawners and numbers of their progeny that return as adult fish. Management of these runs for increased escapement will increase the size of future runs and produce a larger surplus for the fishery.

Redfish growth research.—The successful tagging of redfish at Eastport, Maine, has provided the first direct evidence of the growth rate of this species. Almost 200 tagged fish were recaptured during a 9-month period. The average growth of the recaptured fish was extremely slow, less than one-sixth of an inch in 9 months. The greatest growth for a single fish had been two-fifths of an inch.

Scallop studies.—These studies show that the yield of sea scallops in the North Atlantic can be materially increased by regulating the sizes of the rings used in the scallop dredges. Such regulating would depend on knowledge of the scallop's growth rate and upon mortality rates from fishing and natural causes. By tagging scallops and notching the shell edge at time of release, it is possible to determine the growth between release and recapture.

Gulf of Maine herring stocks.—Biological oceanographic research in the Gulf of Maine has disclosed two large spawning concentrations of herring—on Georges Bank and off the western Nova Scotia coast—during the autumn months. These two groups of fish have different parasites and blood characteristics, and it is believed that they represent separate stocks. The Georges Bank herring occur in great numbers; but there is no fishery for them because the price paid to the fishermen is too low to make their capture profitable.

Maine herring-fishing gear.—An air-bubble curtain gear was developed in Maine for guiding and driving herring (sardines) to areas that are accessible to commercial gear now in use.

Barriers to oyster predators.—Field tests of a barrier to prevent drills, serious oyster predators, from entering oyster beds were successful. Approximately 78 percent fewer drills were found within the barrier than in the open control area. The barrier is made of saran plastic screen covered with antifouling paint. A strip of copper screen is fastened to the top of the saran. Previous experiments have shown that drills will not cross metallic copper.

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Oyster and clam culture.—Progress was made in perfecting and developing hatchery methods for culturing oysters and clams to the setting stage. Use of water sterilized with ultraviolet light proved succesful in reducing diseases that cause high mortalities in the cultures. New techniques and equipment were developed for growing unialgal cultures of food organisms. These are an important part of the culture practice and implement studies to determine the best foods for various species.

Atlantic tuna studies.—Explorations by the Bureau's vessel *Delaware* for subsurface stocks of Northwest Atlantic tuna added significantly to our knowledge of bluefin, albacore, and yellowfin tuna in offshore Gulf Stream waters ranging from Georges Bank to Bermuda.

Great Lakes

Lamprey control.—Progress was made on sea lamprey control in the Great Lakes through the use of chemicals and electrical barriers. Chlorinated and fluorinated nitrophenol were selected from among more than 4,000 chemical compounds tried as lamprey controls. Tests with the two chemicals indicated that pilot treatment of streams should be tried. Electrical barriers have been effective means of killing lampreys, but have destroyed other fish also. To minimize this mortality of other fishes, electrical guiding devices were developed, and the mortality was reduced from 85 to 8½ percent.

Development of smelt markets.—The smelt run in the Great Lakes area has for many years been largely wasted since the human food market could not absorb the entire catch. Through Bureau efforts, new markets for smelts were developed in the mink-fur farm industry, and smelt fishermen, for the first time, were able to sell their entire catch at a profit.

Uses for rough fish.—Bureau market-development activities, stemming from a request by the Lake Erie Fish Management Committee, have found new markets for Lake Erie rough fish in the pet-food and mink-feed industries. During 1957 virtually the entire catch of freshwater sheepshead was moved into these new markets.

General

Telemeter development.—The design and construction of an inexpensive and simple electrical telemeter to report the depth of nets were important and necessary steps in the Bureau's long-range program for development of practical midwater trawls.

Use for chlorine on shipboard.—The addition of chlorine to washwaters, used at sea to rinse eviscerated fish prior to storage in a fishing vessel's hold, was proved extremely effective in preserving fish quality and preventing color loss. In addition the chlorine reduced the

amount of slime in the holds and on the decks and equipment, thus making the vessels cleaner and safer for the fishermen.

Frozen fish-processing and storage studies.—Investigations completed during 1957 conclusively demonstrated the value of improved processing and packaging techniques for fishery products. These techniques can extend storage life of frozen fishery products by many months, with consequent benefits to the industry.

Results of Bureau's studies were published by staff technologists in a comprehensive manual on handling, processing, freezing, storage, and distribution of fresh-frozen and of precooked and frozen fishery products. This manual, issued in five parts, is the only authoritative reference text dealing with all phases of the uses of frozen fishery products and is in great demand by the fishing industry.

Market development.—During 1957 Bureau home economists developed a series of fish and shellfish recipes for use of the Food Service Division of the Army and Air Force and of the Quartermaster Food and Container Institute for the Armed Forces, both substantial outlets for fishery products. In cooperation with Bureau marketing specialists, they also conducted 142 fish-cookery demonstrations for supervisory school-lunchroom personnel, including cooks and managers. This market outlet represents a sales potential of approximately 2 million pounds of fish, edible weight per week.

Shrimp import study.—Central and South America have become our major source for imported shrimp. The Bureau has made a thorough study of this area's potentialities for future shrimp production. It found that the shrimp fisheries of Mexico, Ecuador, and Panama were well developed, but the shrimp resources of other countries south of the United States were relatively unexploited and their potentials unknown.

Foreign shrimp explorations.—Preliminary shrimp explorations by the Bureau's vessel *Oregon* off the northeast coast of South America revealed that shrimp were throughout an extensive area from Trinidad to the Amazon River at depths of 23 to 75 fathoms.

Transportation cost studies.—Rail and freight rates generally increased in 1957. In several instances, however, Bureau personnel were able to present evidence to the Interstate Commerce Commission in behalf of the processors and distributors of fishery products in the fishing industry. As a result, an increase in rates was not granted in these instances.

Fisheries Loan Program.—The Fisheries Loan Program began operating in late 1956. Because the Bureau had no personnel experienced in financial investigations, a Memorandum of Understanding was concluded in 1957 with the Small Business Administration whereby that agency could investigate applications, close, and service the approved loans on a reimbursable basis. In 1957 the number of loans granted

was 187, totaling more than $5 million. The hard-pressed New England fisheries received more than half the money; California and the Southeastern fisheries each received about one-fifth; total loans to other regions were small. The injection of this money into the industry helped to restore the confidence of vessel operators and financial institutions. Without this program, many operators would have had to cease fishing and, in many cases, lose their vessels.

Market news reporting.—Timely information was disseminated to the fishery industry through daily reports by seven Market News Service field offices, in Boston, New York City, Hampton, New Orleans, San Pedro, Seattle, and Chicago. These reports supplied data on daily landings and prices, economic trends, governmental actions, and research results. Reporting on foreign fishery trends was expanded through the use of information supplied by U.S. embassies and consular posts. The Daily Market News Reports also are used extensively by government and private agencies not directly concerned with fisheries.

Safety program.—With the cooperation of the fishing industry, the Bureau organized a safety program to reduce the number of accidents on fishing vessels. Some of the fishing industry's insurance problems would be alleviated or solved by a successful safety program.

New Programs

During 1957 the Bureau of Commercial Fisheries began various new research programs, established new laboratories, and planned the expansion of market information.

Among the new programs was a cooperative investigation on the dynamics of the Chesapeake Bay populations of striped bass by the Bureau and the States of Maryland and Virginia. These fish are important both as commercial and sport fish. Initial tagging will be for the purposes of selecting tag types and tagging techniques and studying movements within and outside the bay. When this phase is complete, a more detailed study of the effects of natural factors and fishing upon these populations will be possible.

One of the problems in the research on Pacific coast sardines is locating the source on which fishing depends. During 1957 an investigation began to determine the value of serological techniques, a new research tool, for identifying subpopulations of sardines. Sardine blood typing may demonstrate whether genetically isolated groups exist along the Pacific coast.

The varying distribution and inconsistent behavior of the eastern tropical tuna affect the operations of our Pacific tuna fishery. In the belief that studies of oceanography and climate may lead to a better understanding of the tuna resource, the Bureau signed a

research contract with the University of California's Scripps Institution of Oceanography. Particular emphasis will be placed on understanding the environmental factors and changes leading to catchable tuna, beginning with air circulation, its effect upon water circulation, and consequent effects upon tuna food, tuna migrations, and tuna availability and abundance.

Blue crabs are an important Atlantic resource that is subject to large fluctuations in abundance. To provide information on the causes for abundance fluctuations and methods of predicting these changes, the Bureau signed a contract with the Oyster Institute of North America. The principal research will be laboratory rearing of crab larvae under varying conditions of temperature, salinity, and diet. Field studies will provide information on the role of natural environmental factors in controlling abundance.

A field station of the Annapolis, Md., biological laboratory was established on Chincoteague Bay, Va. The station has a laboratory building, wharf, and shore front. The location is suitable for experimental oyster and clam studies in high salinity water. This environment is in sharp contrast with the low salinities of major shellfish areas of Chesapeake Bay. Present research concerns the life history and control of oyster predators.

The Research Committee, which previously had been appointed by the International Passamaquoddy Fisheries Board, began in 1957 a study to determine what effect a proposed tidal dam may have on the fishery resources of the area, particularly the herring (sardine). Samples from commercial catches of herring from the Gulf of Maine indicated that autumn-spawned fish contribute the major proportion of the commercial catch. Separation and identification of herring stocks are being accomplished by studies of blood types, parasites, and diseases. The critical early life history of the fish is being traced by plankton collections of larvae. A successful method of tagging is contributing knowledge of short-term movements of immature herring.

During 1957 the new Fishery Technological Laboratory at Pascagoula, Miss., was completed and officially dedicated. The laboratory is designed for research on problems of the Gulf of Mexico fishing industry and contains facilities for bacteriological studies, chemical research, and pilot-engineering and a test kitchen and taste-testing room.

The Bureau made a nonrecurring allocation of $80,000 to determine whether nuclear radiation was a suitable method for preserving the important species of fish and shellfish. Initial surveys were made in the laboratories of the Bureau and of four cooperating research contractors.

Plans were formulated for more complete periodic market reports on domestic and imported, frozen, and specialty fishery products and

on canned fish and shellfish. The frequent appearance on the market of new frozen specialty fishery products, such as breaded fish portions, fish sticks, peeled and deveined shrimp, and halibut in protan jelly, required more contacts in order to cover adequately the marketing of fishery products at principal processing and distribution centers. This type of information is important in gauging marketing trends.

Many problems of the fishing industry are directly related to rising costs of production and distribution. Examination of the increasing price of fishing vessel insurance was included in a new program to determine the industry's competitive position with other food industries and with foreign fisheries. Transportation charges, an element of distribution costs, were examined for possible cost savings.

Meetings

Many meetings and conferences dealing with various aspects of the fisheries were held during 1957. Because of their widespread interest in fisheries, Bureau officials and members of the technical staffs participated in a number of the meetings. In some cases policy required Bureau attendance; in others, Bureau personnel went to meetings to present the results of the Bureau's activities and to learn of recent fishery developments.

One of the most significant meetings was the first International Fishing Gear Congress, held in Hamburg, Germany, October 6–12, 1957, under the sponsorship of the Food and Agriculture Organization of the United Nations. Andrew W. Anderson, Assistant Director of the Bureau of Commercial Fisheries, was general chairman. More than 480 participants from 37 countries registered and heard more than 100 papers on fishing gear. These papers were to be published in book form by the Food and Agriculture Organization. Several papers were contributed by staff members of the Bureau of Commercial Fisheries.

Coordination and Cooperation With International, Federal, State, and Other Agencies

Coordinated and cooperative efforts between the Bureau and other groups interested in fishery matters result in an exchange of ideas and research findings and a wise use of available manpower and facilities. The Bureau has many international agreements and treaties, formal and informal arrangements with State conservation departments, universities, and private associations.

In 1957 the Bureau took part in the activities of the Great Lakes Fishery Commission, International Commission for the Northwest

Atlantic Fisheries (ICNAF), International North Pacific Fisheries Commission (INPFC), and the Food and Agriculture Organization of the United Nations (FAO). These organizations coordinate research efforts of several countries to provide information toward solving mutual problems.

The Bureau's Pacific Oceanic Fishery Investigations (POFI) shared in two international oceanographic surveys. Two of POFI's vessels participated in EQUAPAC, a quasi-synoptic oceanographic survey of the entire central and western equatorial Pacific, conducted by 11 oceanographic vessels, representing Japan, the United States, and France. POFI's participation in the International Geophysical Year (IGY) began in June 1957 with the occupation of an oceanographic station offshore from Oahu. A variety of physical, chemical, and biological observations were made uniformly at this station once each month during the 18-month period of the IGY.

Formal and informal agreements exist between the Bureau and other Federal Government agencies. The Atomic Energy Commission has a contract with our Beaufort, N.C., laboratory for studies on the accumulation and effects of radionuclides on fish and shellfish. In the fields of sanitation, public health, and vocational education, the Bureau and the Department of Health, Education and Welfare coordinate activities related to fishery products and allied matters. Information is exchanged with many other Federal Government departments in areas where mutual interest and assistance occur. For example, during February and March 1957, the Bureau began the collection of sea surface water temperatures and salinity samples in cooperation with the Weather Bureau, Navy, Coast Guard, and Air Force. Information obtained from these observations and collections will enable the Bureau's Pacific Oceanic Fisheries Investigations to anticipate changes in the general circulatory pattern in the area of the Hawaiian Islands and will assist in the long-range prediction of midocean skipjack abundance and availability.

Formal agreements with the States are represented by organizations such as the Atlantic States Marine Fisheries Commission and the Gulf States Marine Fisheries Commission. In these the Bureau plays an important role in providing some of the data upon which coordinated action by the Commissions is based.

An important cooperative effort was the Bureau's and the U.S. Coast Guard's enforcement of the United States fishery treaty laws and regulations.

The management of the Pribilof Islands fur seal herd and the maintenance of the two native communities have involved cooperative arrangements with the Navy, Weather Bureau, Civil Aeronautics Administration, Public Health Service, and the Territory of Alaska.

The Bureau was a participant in several Federal interagency committees, including the Interdepartmental Trade Agreements Committee, Interdepartmental Committee on Radiation Preservation of Foods, Interdepartmental Committee on Visual and Auditory Materials for Distribution Abroad, Interagency Committee on Nutrition Education and School Lunch, and was associated with the Office of Defense Mobilization and the Federal Civil Defense Administration in connection with its defense fishery responsibilities.

By granting contracts to numerous universities, State agencies, trade associations, and private organizations, the Bureau was able to profit by the services and facilities of others. These arrangements provided the Bureau with the services of highly skilled professional personnel in those organizations and also enabled it to expand its facilities for purely fisheries matters.

Appendix H lists the organizations with which the Bureau had formal contractual arrangements in 1957.

Publications

One of the Bureau's prime responsibilities is to keep the public informed about the extensive biological, technological, and economic work that it accomplishes. Publishing is the principal means of distributing this information, and the Bureau is proud of its publication record.

During 1957, the Bureau sponsored 575 publications, which had a total of 9,856 pages and ranged in size from one-page fliers to monographs exceeding a hundred pages. These publications were written by staff members, unpaid collaborators, and private research institutions under Bureau contracts. Most of them were published in established series of the Fish and Wildlife Service, but 125 appeared in outside media, such as technical and trade journals. The Daily Market News Reports, issued 5 times a week by seven Market News Service field offices, are excluded from this listing.

The publications of the Bureau serve several groups of readers. About 56 percent of the papers are statistical summaries of both practical and scientific interest; 24 percent are scientific contributions and include the larger and more formal publications of permanent value and interest; and 13 percent are for an industrial or commercial audience. The remaining 7 percent are written in a popular style and present information for the general public. This tabulation includes three motion pictures but not press news releases.

Appendix I presents a description of the Bureau's publications and a partial list of 1957 publications of the Bureau and its personnel.

Appendix A

Fish and Wildlife Act of 1956

Public Law 1024—84th Congress
Chapter 1036—2d Session
S. 3275

AN ACT

To establish a sound and comprehensive national policy with respect to fish and wildlife; to strengthen the fish and wildlife segments of the national economy; to establish within the Department of the Interior the position of Assistant Secretary for Fish and Wildlife; to establish a United States Fish and Wildlife Service; and for other purposes. 70 Stat. 1119

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Fish and Wildlife Act of 1956". Fish and Wildlife Act of 1956.

DECLARATION OF POLICY

SEC. 2. The Congress hereby declares that the fish, shellfish, and wildlife resources of the Nation make a material contribution to our national economy and food supply, as well as a material contribution to the health, recreation, and well-being of our citizens; that such resources are a living, renewable form of national wealth that is capable of being maintained and greatly increased with proper management, but equally capable of destruction if neglected or unwisely exploited; that such resources afford outdoor recreation throughout the Nation and provide employment, directly or indirectly, to a substantial number of citizens; that the fishing industries strengthen the defense of the United States through the provision of a trained sea-faring citizenry and action-ready fleets of seaworthy vessels; that the training and sport afforded by fish and wildlife resources strengthen the national defense by contributing to the general health and physical fitness of millions of citizens; and that properly developed, such fish and wildlife resources are capable of steadily increasing these valuable contributions to the life of the Nation.

The Congress further declares that the fishing industry, in its several branches, can prosper and thus fulfill its proper function in national life only if certain fundamental needs are satisfied by means that are consistent with the public interest and in accord with constitutional functions of governments. Among these needs are:

(1) Freedom of enterprise—freedom to develop new areas, methods, products, and markets in accordance with sound economic principles, as well as freedom from unnecessary administra-

tive or legal restrictions that unreasonably conflict with or ignore economic needs;

(2) Protection of opportunity—maintenance of an economic atmosphere in which domestic production and processing can prosper; protection from subsidized competing products; protection of opportunity to fish on the high seas in accordance with international law;

(3) Assistance—assistance consistent with that provided by the Government for industry generally, such as is involved in promoting good industrial relations, fair trade standards, harmonious labor relations, better health standards and sanitation; and including, but not limited to—

(a) services to provide current information on production and trade, market promotion and development, and an extension service,

(b) research services for economic and technologic development and resource conservation, and

(c) resource management to assure the maximum sustainable production for the fisheries.

The Congress further declares that the provisions of this Act are necessary in order to accomplish the objective of proper resource development, and that this Act shall be administered with due regard to the inherent right of every citizen and resident of the United States to engage in fishing for his own pleasure, enjoyment, and betterment, and with the intent of maintaining and increasing the public opportunities for recreational use of our fish and wildlife resources, and stimulating the development of a strong, prosperous, and thriving fishery and fish processing industry.

70 Stat. 1120.

REORGANIZATION WITHIN THE DEPARTMENT OF THE INTERIOR

Assistant Secretary for Fish and Wildlife; Commissioner of Fish and Wildlife.

SEC. 3. (a) There is hereby established within the Department of the Interior the position of Assistant Secretary for Fish and Wildlife, and the position of Commissioner of Fish and Wildlife. Such Assistant Secretary shall be appointed by the President, by and with the advice and consent of the Senate, and shall be compensated at the same rate as other Assistant Secretaries. The Commissioner shall be appointed by the President by and with the advice and consent of the Senate. He shall receive compensation at the same rate as that provided for Grade GS–18. There is also established a United States Fish and Wildlife Service within the Department, consisting of two separate agencies, each of which shall have the status of a Federal bureau. There shall be a Director of each of said Bureaus appointed by the Secretary at Grades GS–17 each. One of the agencies shall be known as the "Bureau of Commercial Fisheries" and the other agency shall be known as the "Bureau of Sport Fisheries and Wildlife". The United States Fish and Wildlife Service, except as prescribed by this Act, shall succeed to and replace the presently existing Fish and Wildlife Service of the Department.

U.S. Fish and Wildlife service

(b) The functions of the United States Fish and Wildlife Service hereby established shall be administered under the supervision of the said Commissioner of Fish and Wildlife, who shall

be subject to the supervision of the Assistant Secretary for Fish and Wildlife.

(c) All functions and responsibilities placed in the Department of the Interior or any official thereof by this Act shall be included among the functions and responsibilities of the Secretary of the Interior, as the head of the Department, and shall be carried out under his direction pursuant to such procedures or delegations of authority as he may deem advisable and in the public interest.

Distribution of duties, etc.

(d) In order to make a proper distribution between the two Bureaus of the United States Fish and Wildlife Service established by this Act, the previously existing functions, powers, duties, authority, liabilities, commitments, personnel, records, and other properties or matters previously handled by or administered through the former Fish and Wildlife Service of the Department, shall be distributed as follows:

(1) The Bureau of Commercial Fisheries shall be responsible for those matters to which this Act applies relating primarily to commercial fisheries, whales, seals, and sea-lions, and related matters;

(2) The Bureau of Sport Fisheries and Wildlife shall be responsible for those matters to which this Act applies relating primarily to migratory birds, game management, wildlife refuges, sport fisheries, sea mammals (except whales, seals and sea-lions), and related matters; and the funds and allocations, appropriated or otherwise, relating to the matters covered by paragraphs (1) and (2) of this subsection shall be distributed between such Bureaus as the Secretary of the Interior shall determine.

(e) Except as changed by the terms of this Act or by subsequent laws or regulations, all laws and regulations now in effect relating to matters heretofore administered by the Department of the Interior through the former Fish and Wildlife Service as heretofore existing, shall remain in effect.

Administrative procedures. 70 Stat. 1121.

(f) In recognition of the need for authority to execute the purposes of this Act effectively, the Secretary of the Interior shall exercise such general administrative authority consistently with the terms of this Act as he shall find to be necessary to carry out the provisions of this Act effectively and in the public interest.

Publication of notice in FR.

In order to allow sufficient time to place the reorganizations under this Act into effect, the Secretary is authorized to establish an effective procedure and date of such reorganizations, notice of which shall be published in the Federal Register. Such reorganization shall be accomplished as soon as practicable after the approval of this Act, but not later than ninety (90) calendar days after such approval.

LOAN PROCEDURES

SEC. 4. (a) The Secretary is authorized under rules and regulations and under terms and conditions prescribed by him, to make loans for financing and refinancing of operations, maintenance, replacement, repair, and equipment of fishing gear and vessels, and for research into the basic problems of fisheries.

(b) Any loans made under the provisions of this section shall be subject to the following restrictions:

(1) Bear an interest rate of not less than 3 per centum per annum;

(2) Mature in not more than ten years;

(3) No financial assistance shall be extended pursuant to this section unless reasonable financial assistance applied for is not otherwise available on reasonable terms.

(c) There is hereby created a fisheries loan fund, which shall be used by the Secretary as a revolving fund to make loans for financing and refinancing under this section. Any funds received by the Secretary on or before June 30, 1965, in payment of principal or interest on any loans so made, shall be deposited in the fund and be available for making additional loans under this section. Any funds so received after June 30, 1965, and any balance remaining in the fund at the close of June 30, 1965 (at which time the fund shall cease to exist), shall be covered into the Treasury as miscellaneous receipts. There are hereby authorized to be appropriated to the fund the sum of $10,000,000 to provide initial capital.

(d) The Secretary, subject to the specific limitations in this section, may consent to the modification, with respect to the rate of interest, time of payment of any installment of principal, or security, of any loan contract to which he is a party.

INVESTIGATIONS, INFORMATION, REPORTS

SEC. 5. (a) The Secretary shall conduct continuing investigations, prepare and disseminate information, and make periodical reports to the public, to the President, and to Congress, with respect to the following matters:

(1) The production and flow to market of fish and fishery products domestically produced, and also those produced by foreign producers which affect the domestic fisheries;

(2) The availability and abundance and the biological requirements of the fish and wildlife resources;

(3) The competitive economic position of the various fish and fishery products with respect to each other, and with respect to competitive domestic and foreign-produced commodities;

(4) The collection and dissemination of statistics on commercial and sport fishing;

(5) The collection and dissemination of statistics on the nature and availability of wildlife, progress in acquisition of additional refuges and measures being taken to foster a coordinated program to encourage and develop wildlife values;

70 Stat. 1122.

(6) The improvement of production and marketing practices in regard to commercial species and the conduct of educational and extension services relative to commercial and sport fishing, and wildlife matters;

(7) Any other matters which in the judgment of the Secretary are of public interest in connection with any phases of fish and wildlife operations.

TRANSFER OF FUNCTIONS—ASSISTANCE OF OTHER AGENCIES

SEC. 6. (a) There shall be transferred to the Secretary all functions of the Secretary of Agriculture, the Secretary of Commerce, and the head of any other department or agency, as determined by the Director of the Bureau of the Budget to relate pri-

marily to the development, advancement, management, conservation, and protection of commercial fisheries; but nothing in this section shall be construed to modify the authority of the Department of State or the Secretary of State to negotiate or enter into any international agreements, or conventions with respect to the development, management, or protection of any fisheries and wildlife resources or with respect to international commissions operating under conventions to which the United States is a party.

(b) There shall be transferred to the Department of the Interior so much of the personnel, property, facilities, records, and unexpended balances of appropriations, allocation, and other funds (available or to be made available) as the Director of the Bureau of the Budget determines to be necessary in connection with the exercise of any functions transferred to the Secretary pursuant to subsection (a) of this section.

(c) The Secretary may request and secure the advice or assistance of any department or agency of the Government in carrying out the provisions of this Act, and any such department or agency which furnishes advice or assistance to the Secretary may expend its own funds for such purposes, with or without reimbursement from the Secretary as may be agreed upon between the Secretary and the department or agency.

POLICIES, PROCEDURES, RECOMMENDATIONS

SEC. 7. (a) The Secretary of the Interior, with such advice and assistance as he may require from the Assistant Secretary for Fish and Wildlife, shall consider and determine the policies and procedures that are necessary and desirable in carrying out efficiently and in the public interest the laws relating to fish and wildlife. The Secretary, with the assistance of the departmental staff herein authorized, shall—

(1) develop and recommend measures which are appropriate to assure the maximum sustainable production of fish and fishery products and to prevent unnecessary and excessive fluctuations in such production;

(2) study the economic condition of the industry, and whenever he determines that any segment of the domestic fisheries has been seriously disturbed either by wide fluctuation in the abundance of the resource supporting it, or by unstable market or fishing conditions or due to any other factors he shall make such recommendations to the President and the Congress as he deems appropriate to aid in stabilizing the domestic fisheries;

(3) develop and recommend special promotional and informational activities with a view to stimulating the consumption of fishery products whenever he determines that there is a prospective or actual surplus of such products;

(4) take such steps as may be required for the development, advancement, management, conservation, and protection of the fisheries resources; and 70 Stat. 1123.

(5) take such steps as may be required for the development, management, advancement, conservation, and protection of wildlife resources through research, acquisition of

refuge lands, development of existing facilities, and other means.

STATE DEPARTMENT—COOPERATION

SEC. 8. (a) The Secretary shall cooperate to the fullest practicable extent with the Secretary of State in providing representation at all meetings and conferences relating to fish and wildlife in which representatives of the United States and foreign countries participate.

The Secretary of State shall designate the Secretary of the Interior or the Assistant Secretary for Fish and Wildlife, or a person designated by the Secretary of the Interior to represent the Department of the Interior, as a member of the United States delegation attending such meetings and conferences and also as a member of the negotiating team of any such delegation.

(b) The Secretary of State and all other officials having responsibilities in the fields of technical and economic aid to foreign nations shall consult with the Secretary in all cases in which the interests of fish and wildlife are involved, with a view to assuring that such interests are adequately represented at all times.

(c) Notwithstanding any other provision of law, the Secretary shall be represented in all international negotiations conducted by the United States pursuant to section 350 of the Tariff Act of 1930, as amended, in any case in which fish products are directly affected by such negotiations.

48 Stat. 943.
19 USC 1351.

(d) The Secretary shall consult periodically with the various governmental, private nonprofit, and other organizations and agencies which have to do with any phase of fish and wildlife with respect to any problems that may arise in connection with such fish and wildlife.

REPORTS ON ACTIVITIES AND IMPORTS

Report to Congress.

SEC. 9. (a) The Secretary of the Interior shall make an annual report to the Congress with respect to activities of the United States Fish and Wildlife Service under this Act, and shall make such recommendations for additional legislation as he deems necessary.

(b) The Secretary is authorized to make a report to the President and the Congress, and, when requested by the United States Tariff Commission in connection with section 7 of the Trade Agreements Extension Act of 1951, as amended (67 Stat. 72, 74), or when an investigation is made under the Tariff Act of 1930 (19 U.S.C. 1332), the Secretary is authorized to make a report to such Commission, concerning the following matters with respect to any fishery product which is imported into the United States, or such reports may be made upon a request from any segment of the domestic industry producing a like or directly competitive product—

65 Stat. 74.
19 USC 1364.

(1) whether there has been a downward trend in the production, employment in the production, or prices, or a decline in the sales, of the like or directly competitive product by the domestic industry; and

(2) whether there has been an increase in the imports of the fishery products into the United States, either actual or relative to the production of the like or directly competitive product produced by the domestic industry.

THE RIGHTS OF STATES

SEC. 10. Nothing in this Act shall be construed (1) to interfere in any manner with the rights of any State under the Submerged Lands Act (Public Law 31, Eighty-third Congress) or otherwise provided by law, or to supersede any regulatory authority over fisheries exercised by the States either individually or under interstate compacts; or (2) to interfere in any manner with the authority exercised by any International Commission established under any treaty or convention to which the United States is a party.

70 Stat. 1124.
67 Stat. 29.

AUTHORIZATION FOR APPROPRIATION

SEC. 11. There are hereby authorized to be appropriated such sums as may be necessary to carry out the provisions of this Act.

SEC. 12. (a) The authorization for the transfer of certain funds from the Secretary of Agriculture to the Secretary of the Interior and their maintenance in a separate fund as contained in section 2(a) of the Act of August 11, 1939, as amended July 1, 1954 (68 Stat. 376), shall be continued for the year ending June 30, 1957, and each year thereafter.

(b) Subsection (e) of section 2 of the aforesaid Act of August 11, 1939, as amended, is hereby amended to read as follows:

"(e) The separate fund created for the use of the Secretary of the Interior under section 2(a) of this Act and the annual accruals thereto shall be available for each year hereafter until expended by the Secretary."

Approved August 8, 1956.

Appendix B

Public Law 466—83d Congress

Chapter 447—2d Session

S. 2802

AN ACT

To further encourage the distribution of fishery products and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 2 of the Act of August 11, 1939 (53 Stat. 1411), is hereby amended to read as follows:

Fishery products. Distribution.

Transfer of funds.

"SEC. 2. (a) The Secretary of Agriculture shall transfer to the Secretary of the Interior each fiscal year, beginning with the fiscal year commencing July 1, 1954, and ending on June 30, 1957, from moneys made available to carry out the provisions of section 32 of such Act of August 24, 1935, an amount equal to 30 per centum of the gross receipts from duties collected under the customs laws on fishery products (including fish, shellfish, mollusks, crustacea, aquatic plants and animals, and any products thereof, including processed and manufactured products), which shall be maintained in a separate fund and used by the Secretary of the Interior (1) to promote the free flow of domestically produced fishery products in commerce by conducting a fishery educational service and fishery technological, biological and related research programs, the moneys so transferred to be also available for the purchase or other acquisition, construction, equipment, operation, and maintenance of vessels or other facilities necessary for conducting research as provided for in this section, and (2) to develop and increase markets for fishery products of domestic origin and (3) to conduct any biological, technological, or other research pertaining to American fisheries.

49 Stat. 774. 7 USC 612c.

Use.

68 Stat. 376.

68 Stat. 377.

Transfer of excess vessels, etc.

"(b) For the purposes of this section, any agency of the United States, or any corporation wholly owned by the United States, is authorized to transfer, without reimbursement or transfer of funds, any vessels or equipment excess to its needs required by the Secretary of the Interior for the activities, studies, and research authorized herein.

Agency cooperation, etc.

"(c) In carrying out the purposes and objectives of this section, the Secretary of the Interior is directed as far as practicable to cooperate with other appropriate agencies of the Federal Government, with State or local governmental agencies, private agencies, organizations, or individuals, having jurisdiction over or an interest in fish or fishery commodities and he is authorized to appoint an advisory committee of the American fisheries industry to advise him in the formulation of policy, rules and regulations pertaining to requests for assistance, and other matters.

Advisory committee.

Retransfer of funds.

"(d) The Secretary of the Interior is further authorized to retransfer any of the funds not to exceed $1,500,000 to be made

available under this section to the Secretary of Agriculture to be used for the purposes specified in section 1 of this Act, and only such funds as are thus transferred shall be used for the purposes specified in section 1 of this Act with respect to domestically produced fishery products.

Availability of funds.

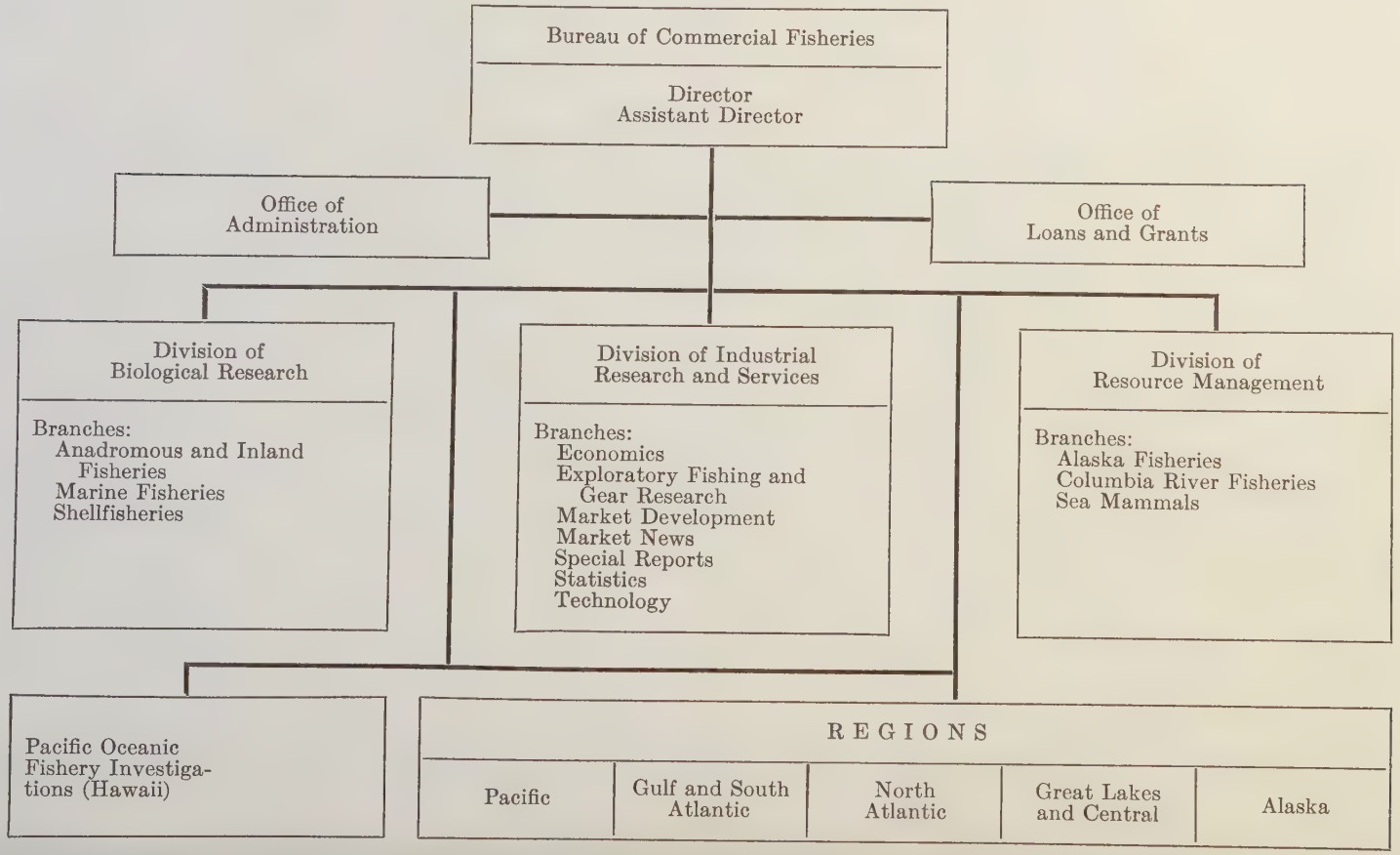
"(e) The separate fund created for the use of the Secretary of the Interior under section 2(a) of this Act and the annual accruals thereto shall be available until expended, except (1) that not more than $3,000,000 be spent in any fiscal year and (2) that the balance of the fund shall not exceed $5,000,000 at the end of any fiscal year, and the Secretary of the Interior shall retransfer the funds in excess of said $5,000,000 balance to the Secretary of Agriculture to be used for the purposes specified in section 32 of the Act of 1935 (49 Stat. 774; 7 U.S.C. 612c), as amended.

Report.

"(f) The Secretary of the Interior shall make a report to the appropriate committees of Congress annually on the use of the separate fund created under section 2 of this Act."

Approved July 1, 1954.

Appendix C—Organization Chart



Appendix D—Budget for Fiscal Year 1957

Function	Annual definite appropriations [1]				Permanent indefinite appropriations to promote and develop fisheries [2]	Revolving fund, fisheries loan fund	Transferred funds			Advances and contributed funds [3]	Total
	Management and investigations of resources	Construction	General administrative expenses	Administration of Pribilof Islands			Corps of Engineers		State Department, Passamaquoddy studies		
							Operation and maintenance	Construction			
Management	$80,207										$80,207
Marketing and technology	1,146,828				$2,814,000					$66,631	4,027,459
Research	2,859,835				3,394,000				$50,000	646,545	6,950,380
Research on fish migration over dams	162,517										162,517
Administration of Alaska fisheries	1,426,997										1,426,997
Construction		$930,000									930,000
General administrative services	55,904		$150,462		372,000		$44,200	$29,250		30,000	681,816
Fisheries loan fund						[4] $10,000,000					10,000,000
Administration of Pribilof Islands				$1,346,700							1,346,700
Fur seal research				78,500							78,500
Fisheries Advisory Committee					15,000						15,000
Lower Columbia River:											
Operation and maintenance							1,355,800				1,355,800
Construction								1,220,750			1,220,750
Total	5,732,288	930,000	150,462	1,425,200	6,595,000	[4] 10,000,000	1,400,000	1,250,000	50,000	743,176	28,276,126

[1] *Represents funds available to the Bureau of Commercial Fisheries from appropriations for the Fish and Wildlife Service.*

[2] *Funds made available under Public Law 466, 83d Cong. (known as the Saltonstall-Kennedy Act of 1954).*

[3] *Includes $600,000 from the Great Lakes Fishery Commission, $42,580 from Atomic Energy Commission, and $53,020 from Central Intelligence Agency and many minor amounts from other sources.*

[4] *Initial capitalization of this revolving fund.*

Appendix E—Physical Properties

E–1.—*Principal laboratories and installations, calendar year 1957*

Location	Type	Principal use	Gross valuation [1]
California:			
La Jolla	Laboratory	Biological research	[2]
Stanford	do	do	[2]
Connecticut: Milford	do	do	$80,000
Florida: Pensacola	do	do	75,000
Georgia: Brunswick	do	do	[3]
Maine: Boothbay Harbor	do	Biological research, exploratory fishing and gear research.	[2] 110,000
Maryland:			
College Park	do	Technology, home economics	81,000
Annapolis	do	Biological research	[3]
Massachusetts:			
East Boston	do	Technology, exploratory fishing and gear research, loans and grants.	[2]
Woods Hole	do	Biological research	364,000
Michigan: Ann Arbor	do	do	[3]
Mississippi: Pascagoula	Exploratory Fishing Station.	Exploratory fishing and gear research, loans and grants, market development.	40,000
North Carolina: Beaufort	Laboratory	Biological research, statistics	156,000
Texas: Galveston	do	Biological research	[3]
Washington: Seattle	Laboratory, dock, and warehouse.	Biological research, technology, exploratory fishing and gear research, Pribilof Islands supply, market development.	[2] 122,000
Alaska:			
Juneau	Laboratory, warehouse, and shops.	Vessel maintenance, biological research, loans and grants.	[2] 212,000
Ketchikan	Laboratory	Technology	175,000
Pribilof Islands	Fur seal processing facilities and native villages.	Management of Alaska fur seals	2,237,000
Puerto Rico: Mayaquez	Laboratory	On loan to University of Puerto Rico.	27,000
Hawaiian Islands: Honolulu	do	Biological research, loans and grants.	314,000

[1] Figures shown are original acquisition or construction costs.
[2] Installations at this location are both owned and leased by Bureau of Commercial Fisheries.
[3] Installation not owned by Bureau of Commercial Fisheries. Includes property held under leases, cooperative agreements, and use permits.

E–2.—*Minor field research stations, market news offices, exploratory fishing stations, market development offices, and statistical offices, calendar year 1957*

Location	Type	Principal use	Gross valuation [1]
Alabama: Bayou LaBatre	Statistical Field Office	Statistics	[2]
California:			
Mill Creek	Field Research Station	Biological research	$29,000
San Pedro	Market News Office	Market news reporting, statistics, loans and grants.	[2]
Terminal Island	Market Development Office	Market development	[2]
Delaware: Millville	Field Research Station	Biological research	[2]
Florida:			
Apalachicola	Statistical Field Office	Statistics	[2]
Coral Gables	do	do	[2]
Fort Meyers	do	do	[2]
Jacksonville	Market Development Office	Market development	[2]
Key West	Statistical Field Office	Statistics	[2]
Miami	Exploratory Fishing Station.	Exploratory fishing and gear research.	[2]
St. Petersburg	Field Research Station	Biological research	[2]
Tampa	Statistical Field Office	Statistics	[2]
Georgia: Brunswick	do	do	[2]
Illinois:			
Chicago	Market News Office	Market news reporting	[2]
Springfield	Market Development Office	Market development	[2]
Louisiana:			
Empire	Statistical Field Office	Statistics	[2]
Galiano	do	do	[2]
Houma	do	do	[2]
New Orleans	Market News Office	Market news reporting, statistics.	[2]

See footnotes at end of table.

E–2.—*Minor field research stations, market news offices, exploratory fishing stations, market development offices, and statistical offices, calendar year 1957*—Continued

Location	Type	Principal use	Gross valuation [1]
Maine:			
West Boothbay Harbor	Statistical Field Office	Statistics	(2)
Eastport	Field Research Station	Biological research	(2)
Portland	Field Office	Statistics, biological research	(2)
Rockland	do	do	(2)
Maryland: Annapolis	Statistical Field Office	Statistics	(2)
Massachusetts:			
Boston	Market News Office	Market news reporting, statistics, biological research.	(2)
	Market Development Office	Market development	(2)
Gloucester	Field Office	Statistics, biological research, market news reporting.	(2)
New Bedford	do	do	(2)
Provincetown	Statistical Field Office	Statistics, market news reporting.	(2)
Michigan:			
Ludington	Field Research Station	Biological research	(2)
Rogers City	do	do	(2)
Mississippi:			
Ocean Springs	Statistical Field Office	Statistics	(2)
Vicksburg	do	do	(2)
New Jersey: Toms River	do	do	(2)
New York:			
Bayport	do	do	(2)
New York City	Market News Office	Market news reporting	(2)
	Market Development Office	Market development	(2)
Ohio:			
Sandusky	Field Research Station	Biological research	(2)
Sheffield Lake	Market Development Office	Market development	(2)
Oregon: Astoria	Statistical Feld Office	Statistics	(2)
Rhode Island:			
Kingston	Field Research Station	Biological research	(2)
Point Judith	do	do	(2)
Providence	Statistical Field Office	Statistics	(2)
South Carolina: Charleston	do	do	(2)
Texas:			
Aransas Pass	do	do	(2)
Brownsville	do	do	(2)
Fort Worth	Market Development Office	Market development	(2)
Freeport	Statistical Field Office	Statistics	(2)
Galveston	do	do	(2)
Virginia:			
Franklin City	Field Research Station	Biological research	(2)
Hampton	Market News Office	Market news reporting	(2)
Weems	Statistical Field Office	Statistics	(2)
Washington:			
North Bonneville	Field Research Station	Biological research	(2)
Seattle	Market News Office	Market news reporting, statistics, loans and grants.	(2)
Wisconsin:			
Aconto	Field Research Station	Biological research	(2)
Ashland	do	do	(2)
Alaska:			
Brooks Lake	do	do	$21,000
Little Port Walter	do	do	18,000

[1] Figures shown are original acquisition or construction costs.
[2] Installation not owned by Bureau of Commercial Fisheries. Includes property held under leases, cooperative agreements, and use permits.

E-3.—*Bureau of Commercial Fisheries vessel fleet, calendar year 1957*

Name of vessel	Home port	Length (feet)	Year built	Cost	Horsepower	Primary activity
Albatross III	Woods Hole, Mass	163	1926	(1)	805	Biological research.
Black Douglas	La Jolla, Calif	150	1926	$75,000	325	Do.
Dennis Winn	Juneau, Alaska	148	1944	533,532	875	Management and biological research.
Penguin II	Seattle, Wash	148	1950	533,532	875	Pribilof Islands supply.
Delaware	East Boston, Mass	147	1937	302,473	735	Exploratory fishing and gear research.
Hugh M. Smith	Honolulu, T.H	128	1945	150,000	500	Biological research.
Brown Bear	Juneau, Alaska	115	1934	130,000	400	On loan to Navy.
Chas. H. Gilbert	Honolulu, T.H	112	1952	409,890	640	Biological research.
Alaska	Brunswick, Ga	100	1945	300,000	600	On loan to University of California Scripps.
Oregon	Pascagoula, Miss	100	1945	300,000	600	Exploratory fishing and gear research.
John N. Cobb	Seattle, Wash	93	1950	235,392	500	Do.
Crane	do	90	1928	60,000	200	Management.
J. R. Manning	Juneau, Alaska	86	1950	181,600	320	Biological research.
Murre	do	86	1943	64,000	115	Do.
Pelican	do	75	1930	50,200	200	Management.
George M. Bowers.	Pascagoula, Miss	73	1956	93,800	210	Biological research.
Teal	Juneau, Alaska	74	(2)	40,000	175	Management.
Kittiwake II	do	72	1944	120,000	240	Management and biological research.
Cisco	Bay City, Mich	60	1950	85,000	175	Biological research.
Auklet II	Seldovia, Alaska	57	1951	60,000	200	Management and biological research.
Musky	Sandusky, Ohio	53	1931	3,666	170	Biological research.
Mackinaw	Juneau, Alaska	52	1927	40,000	150	Management.
Siscowet	Ashland, Wis	52	1946	[3] 81,000	170	Biological research.
Shang Wheeler	Milford, Conn	50	1951	45,840	140	Do.
Alosa	Annapolis, Md	48	1941	6,500	82	Do.
Shad	Juneau, Alaska	44	1957	23,000	110	Management and biological research.
Kingfish	St. Petersburg Beach, Fla.	43	1954	24,500	150	Biological research.
Skipjack	Cordova, Alaska	42	1943	14,600	175	Management and biological research.
Albacore	do	40	1938	6,000	122	Biological research.
Capelin	Ketchikan, Alaska	40	1939	9,695	145	Management.
J-1110	Beaufort, N.C	40	1934	15,000	200	Biological research.
King	King Salmon, Alaska	40	1946	16,168	175	Management and biological research.
Phalarope II	Boothbay Harbor, Maine.	40	1932	8,000	225	Biological research.
Sockeye	King Salmon, Alaska	40	1946	16,168	175	Do.

[1] Cost of conversion is unknown.
[2] Year of construction was prior to 1927.
[3] The amount includes cost of alterations.

Appendix F—Fisheries of the United States and Alaska

F–1.—*Employment, fishing craft, and establishments, calendar years 1957 and 1950*

Item	1957	1950
Persons employed:		
Direct:	*Number*	*Number*
Fishermen	138,171	161,463
Transporters	3,024	4,916
Shore workers	96,585	102,015
Indirect:		
Allied industries (gear, manufacture, boat building, processing equipment, etc.).	300,000	300,000
Total	537,780	568,394
Craft utilized:		
Fishing:		
Vessels (5 net tons and over)	11,671	11,496
Motor boats	56,434	46,067
Other boats	9,865	34,747
Transporting:		
Vessels (5 net tons and over)	1,045	1,313
Motor boats	412	827
Total	79,427	94,450
Vessels documented for fishing for the first time during the year	601	812
Fishery shore establishments:		
Alaska	169	216
Pacific Coast States	396	484
Atlantic Coast and Gulf States	3,018	2,699
Great Lakes and Mississippi River States	739	484
Total	4,322	3,883

F–2.—*Catch, 1957, 1956, and record year*

Species	1957		1956		Record catch	
	Million pounds	*Million dollars*	*Million pounds*	*Million dollars*	*Year*	*Million pounds*
Menhaden	1,690	22	2,097	28	1956	2,097
Tuna	297	38	329	43	1950	391
Herring, Sea:						
Atlantic	161	2	148	2	1902	200,598
Pacific	121	2	110	2	1937	263,200
Salmon	265	40	324	46	1936	791
Industrial fish [1]	241	2	185	2	1957	241
Shrimp	204	73	224	71	1954	268
Crabs	171	12	143	12	1957	171
Ocean perch (Atlantic)	134	5	151	6	1951	258
Haddock	134	10	152	10	1929	294
Whiting	133	2	94	2	1957	133
Flounders	117	12	115	11	1948	139
Jack mackerel	82	2	76	2	1952	147
Oysters	72	29	75	31	[2] 1908	152,048
Mackerel, Pacific	62	1	50	1	1935	146
Alewives	58	1	54	1	1908	90
Halibut	50	7	55	9	1915	67
Cod	46	3	45	3	1880	308
Sardines, Pacific	46	2	70	2	1936	1,502
Anchovies	41	1	57	1	1953	86
Mullet	40	2	37	3	1902	43
Clams	40	11	38	11	1951	43
Other	573	72	623	70	----------	----------
Total	4,778	351	5,252	369	----------	----------

[1] Unclassified species used for bait, reduction, and mink food.
[2] First year in which an oyster survey was made for all regions.

F–3.—*Summary of manufactured fishery products by quantity and value, calendar years 1957 and 1956*

Item	1957		1956	
	Quantity	Value	Quantity	Value
Packaged products, fresh and frozen:				
Fish:	*Thousand pounds*	*Thousand dollars*	*Thousand pounds*	*Thousand dollars*
Not breaded:				
Fillets and steaks, raw	154,469	46,763	162,799	47,342
Other (includes whale meat for animal feeding).	2,123	293	256	99
Breaded, raw and cooked:				
Sticks	53,128	23,544	52,819	23,193
Fillets and portions	21,408	8,770	15,942	6,631
Shellfish:				
Not breaded	172,133	127,899	162,101	116,185
Breaded	59,643	44,740	58,474	43,924
Fish and shellfish specialties	17,400	14,409	17,578	12,985
Total fresh and frozen	480,304	266,418	469,969	250,359
Canned:				
Fish and shellfish for human consumption:				
Tuna	232,456	135,813	229,445	140,287
Salmon	153,917	86,149	168,250	95,101
Sardines:				
Maine (sea herring)	45,019	14,733	45,298	16,692
Pacific	22,399	4,721	33,963	5,734
Mackerel	59,696	7,404	50,235	6,435
Clam products and specialties	49,304	13,526	48,179	13,514
Shrimp and specialties	9,514	13,295	14,207	16,758
Oysters and specialties	14,134	9,000	13,760	8,594
Squid	12,533	922	15,503	1,268
Other	45,056	15,187	38,802	11,699
Total for human consumption	644,028	300,750	657,642	316,082
Bait and animal food:				
Animal food	346,723	34,153	321,026	32,715
Salmon eggs for bait	914	926	751	719
Total bait and animal food	347,637	35,079	321,777	33,434
Total canned	991,665	335,829	979,419	349,516
Cured fish and shellfish:				
Salted	35,873	12,015	37,276	12,991
Smoked	35,289	25,274	37,340	26,080
Dried shrimp and cod	3,029	1,118	3,279	1,186
Total cured	74,191	38,407	77,895	40,257
Industrial products:				
Meal and scrap	528,170	32,592	591,586	37,887
Oil, body and liver	152,615	12,619	201,500	17,252
Fish solubles and homogenized-condensed fish	244,546	10,218	257,657	9,989
Oyster-shell lime and poultry grit	957,136	5,201	772,400	3,943
Mussell-shell lime and poultry grit	5,102	20	6,446	38
Marine pearl-shell and mussel-shell buttons	[1] 6,060	9,068	[1] 7,207	10,531
Other		11,663		12,096
Total industrial products		81,381		91,736
Grand total		722,035		731,868

[1] Number of gross of manufactured buttons.

F–4.—*Foreign trade in fishery products by quantity and value, calendar years 1957 and 1956*

Item	1957		1956	
	Quantity	Value	Quantity	Value
Imports				
Edible:	*Thousand pounds*	*Thousand dollars*	*Thousand pounds*	*Thousand dollars*
Fresh or frozen:				
Fresh-water (not fillets)	38, 320	11, 134	37, 915	10, 167
Salt-water (not fillets)	261, 594	35, 022	187, 990	31, 762
Groundfish and ocean perch fillets	140, 678	27, 417	135, 295	25, 987
Other fillets	63, 300	21, 725	60, 274	19, 933
Shrimp	69, 676	35, 415	68, 618	32, 986
Lobsters:				
Common	22, 218	13, 073	22, 484	13, 722
Spiny	28, 236	23, 754	25, 258	20, 563
Other shellfish	13, 916	4, 428	18, 357	4, 099
Canned:				
Salmon	24, 401	9, 470	28, 802	11, 650
Sardines	24, 697	8, 957	19, 231	7, 110
Tuna	44, 386	17, 002	38, 215	14, 998
Crabmeat	6, 185	6, 254	5, 640	5, 318
Other	47, 702	19, 662	44, 851	18, 517
Cured, dried, pickled, or salted	79, 783	12, 508	82, 119	12, 568
Smoked or kippered	4, 867	1, 106	5, 315	1, 028
Other	14, 065	4, 029	7, 502	2, 758
Total edible	884, 024	250, 956	787, 866	233, 166
Nonedible:				
Fish & marine animal oils	[1] 7, 946	9, 598	[1] 9, 250	9, 276
Fish meal and scrap	[2] 81	9, 717	[2] 90	11, 518
Other		27, 172		27, 237
Total nonedible		46, 487		48, 031
Grand total, imports		297, 443		281, 197
Exports				
Edible:				
Fresh or frozen	15, 539	3, 901	19, 096	4, 144
Canned:				
Mackerel	17, 044	2, 146	2, 374	335
Salmon	6, 688	4, 740	5, 213	3, 606
Sardines	15, 301	2, 779	39, 674	6, 501
Other	29, 283	6, 381	34, 305	7, 654
Total canned	68, 316	16, 046	81, 566	18, 096
Cured	1, 067	447	963	564
Other	299	155	293	135
Total edible	85, 221	20, 549	101, 918	22, 939
Nonedible:				
Fish and marine animal oil	117, 301	10, 993	141, 546	12, 974
Other		4, 410		3, 590
Total nonedible		15, 403		16, 564
Grand total, exports		35, 952		39, 503

[1] In thousand gallons.
[2] In tons.

Appendix G—Chronological List of Laws Relating to the United States Commercial Fishery

This listing has been divided arbitrarily into three parts for the purpose of orderly organization of the material. The first division is a brief resume of the organizational development of the Fish and Wildlife Service in its 86-year history. The second division includes the present basic working authorities of the Bureau. The last division covers those Federal laws not administered by the Bureau but in which the commercial fishing industry has been singled out for some type of assistance. This last division does not purport to be all-inclusive but is limited to the more significant areas of assistance.

1. Laws and Orders Having the Effect of Law Which Provide Organizational Authorization

Act of February 9, 1871

16 U.S.C. 745

Established the office of Commissioner of Fish and Fisheries and authorized the study of food fishes of the coasts and lakes in order to recommend conservation measures.

R.S. sec. 4395–4398
(original enactment: 16 Stat. 593, Joint Resolution No. 22, 41st Cong.)

Act of January 20, 1888, 25 Stat. 1, 16 U.S.C. 741 omitted
Act of February 14, 1903, 32 Stat. 828, 48 U.S.C. 220
Act of March 4, 1911, 36 Stat. 1436, 16 U.S.C. 742 omitted.
Act of March 4, 1913, 37 Stat. 736, 16 U.S.C. 742 omitted.
Act of February 27, 1925, 43 Stat. 1046, 16 U.S.C. 741 omitted
Miscellaneous changes relating to the appointment of a Commissioner of Fish and Fisheries; an acting Commissioner of Fish and Fisheries, transfer of functions, etc.

1939 Reorganization Plan No. II

5 U.S.C. 133t Note

Transferred two conservation agencies to the Department of the Interior to be administered under the direction and supervision of the Secretary of that department, the Bureau of Fisheries and its functions from the Department of Commerce and the Bureau of Biological Survey and its functions from the Department of Agriculture.
54 Stat. 1433; Act of July 1, 1939.

1940 Reorganization Plan No. III

5 U.S.C. 133t Note

Consolidated the Bureau of Fisheries and the Bureau of Biological Survey into one agency in the Department of the Interior to be known as the Fish and Wildlife Service. It was further provided that the functions of the consolidated agency should be administered under the direction and supervision of the Secretary of the Interior by a director and assistants.
54 Stat. 1232; Act of June 30, 1940.

Fish and Wildlife Act of 1956

16 U.S.C. 742a–742d, 742e–742j

Reorganized the Fish and Wildlife Service of the Department of the Interior into the United States Fish and Wildlife Service in that Department consisting of a Bureau of Commercial Fisheries and a Bureau of Sport Fisheries and

Wildlife. The functions of the United States Fish and Wildlife Service are administered under the supervision of the Commissioner of Fish and Wildlife, who is subject to the supervision of the Assistant Secretary for Fish and Wildlife.

70 Stat. 1119; Public Law 1024, 84th Cong.; Act of August 8, 1956.

2. Laws and Orders Having the Effect of Law Currently in Force Which Provide Authority for the Activities of the Bureau of Commercial Fisheries

Act of March 3, 1887

16 U.S.C. 744

Authorized the Commissioner of Fish and Fisheries to prosecute investigations and inquiries concerning the supply of food fishes of the coasts and lakes of the United States and the determination of protective, prohibitory, or precautionary measures to be adopted.

R.S. sec. 4396–4397.
24 Stat. 523; No public law number; Act of March 3, 1887.
39 Stat. 232; Public Law 100, 64th Cong.; Act of June 21, 1916.

Pribilof Islands Administration

48 U.S.C. 220

In 1903 jurisdiction, supervision, and control over the Pribilof Islands and the fur seal herd was transferred from the Department of the Treasury to the Department of Commerce. Jurisdiction was later transferred to the Department of the Interior, and the accumulated authority for management of the Pribilof Islands was superseded by the Act of February 26, 1944, sometimes known as the Fur Seal Act of 1944, *infra*.

32 Stat. 828; Public Law 87, 57th Cong.; Act of February 14, 1903.
37 Stat. 736; Public Law 426, 62nd Cong.; Act of March 4, 1913.

Restriction on Commercial Fishing by Aliens in Waters of Alaska

48 U.S.C. 243–247

Prohibited commercial fishing by aliens in the waters of Alaska and authorized the enforcement procedures necessary.

34 Stat. 263; Public Law 228, 59th Cong.; June 14, 1906.
52 Stat. 1174; Public Law 731, 75th Cong.; June 25, 1938.

Act of August 15, 1914

16 U.S.C. 781–785

Regulated the taking or catching of sponges in the waters of the Gulf of Mexico and Straits of Florida outside of State jurisdiction. Also regulated the landing, delivery, curing, selling, or possession of sponges. Set minimum wet size of sponges allowed to be taken, landed, delivered, cured, sold, or processed at 5 inches maximum diameter; provided maximum fine of $500 and a lien against vessel used in committing violation; vested the Secretary of the Interior with responsibility for enforcing the Act and authorized him to request the use of Coast Guard craft and employees of Customs Service to assist in enforcement.

38 Stat. 692; Public Law 172, 63d Cong.; Act of August 15, 1914.
63 Stat. 495, 561; Public Law 207, 81st Cong.; Act of August 4, 1949.

Act of June 21, 1916

16 U.S.C. 744

Authorized investigations and experiments to control damage done by dogfish and other predaceous fishes and aquatic animals.

R.S. sec. 4396, 4397
24 Stat. 523; No public law number; Act of March 3, 1887.
39 Stat. 232; Public Law 100, 64th Cong.; Act of June 21, 1916.

Propagation of Mussels

16 U.S.C. 750–751

Authorized the establishment of a station on the Mississippi River for the rescue of fishes and the propagation of mussels in connection with fish-rescue operations throughout the Mississippi Valley.

42 Stat. 501; Public Law 203, 67th Cong.; Act of April 28, 1922.

The Black Bass Act, as Amended

16 U.S.C. 851–856
16 U.S.C., 1958 Ed., Supp. I, 855

This Act made it unlawful to transport to or from States, Territories, or the District of Columbia any black bass or other fish caught, killed, taken, sold, purchased, possessed, or transported, at any time contrary to the law of the State, Territory, or the District of Columbia where such acts were committed. The Act also authorized enforcement procedures.

44 Stat. 576; Public Law 256, 69th Cong.; Act of May 20, 1926.
46 Stat. 845; Public Law 495, 71st Cong.; Act of July 2, 1930.
61 Stat. 517; Public Law 258, 80th Cong.; Act of July 30, 1947.
66 Stat. 736; Public Law 569, 82nd Cong.; Act of July 16, 1952.

Alaska Fisheries Act and Alaska Salmon Fisheries Act

48 U.S.C. 221–228, 230–239, 241, 242

This body of laws which is codified under the heading "Alaska Fisheries" is composed of various enactments beginning with the transfer of authority over these fisheries to the predecessor in authority of the Department of the Interior in 1903 (48 U.S.C. 220). The Act of June 26, 1906, contained more specific authorization for protection and regulation of these fisheries (48 U.S.C. 230–239, 241–242), but a more thorough management program was authorized by the Act of June 6, 1924, which is sometimes known as the "White Act" (48 U.S.C. 221–228). Taken together, these enactments with the many amendments thereto authorize the regulation of Alaska fisheries, including leasing of oyster grounds, for the purpose of protecting and conserving these resources; provide that certain employees of the Fish and Wildlife Service shall have enforcement authority; and by the latest amendment in 1957 provide for a more flexible authority to regulate escapement as management and research may dictate.

32 Stat. 828; Public Law 87, 57th Cong.; Act of February 14, 1903.
34 Stat. 478; Public Law 298, 59th Cong.; Act of June 26, 1906.
43 Stat. 464; Public Law 204, 68th Cong.; Act of June 6, 1924.
44 Stat. 752; Public Law 403, 69th Cong.; Act of June 18, 1926.
45 Stat. 1349; Public Law 842, 70th Cong.; Act of February 28, 1929.
48 Stat. 594; Public Law 166, 73d Cong.; Act of April 16, 1934.
50 Stat. 557; Public Law 240, 75th Cong.; Act of August 2, 1937.
50 Stat. 639; Public Law 282, 75th Cong.; Act of August 14, 1937.
52 Stat. 208; Public Law 473, 75th Cong.; Act of April 7, 1938.

54 Stat. 723; Public Law 709, 76th Cong.; Act of July 2, 1940.
69 Stat. 12; Public Law 12, 84th Cong.; Act of March 16, 1955.
71 Stat. 617; Public Law 85–296; Act of September 4, 1957.

Fisheries Construction and Maintenance

Not codified

Authorized a 5-year construction and maintenance program for the Bureau of Fisheries. Although the 5-year period contemplated by this Act has expired, some provisions have been incorporated by reference in later enactments. See Columbia River Fishery Development Program, *infra.*

46 Stat. 371; Public Law 240, 71st Cong.; Act of May 21, 1930.

Fishery Cooperative Associations

15 U.S.C. 521

Authorized the formation of fishery marketing cooperatives and provided for their administration.

48 Stat. 1213; Public Law 464, 73d Cong.; Act of June 25, 1934.

Fish and Wildlife Coordination Act, as Amended

16 U.S.C. 661–666c

Authorized the Secretary of the Interior to cooperate with Federal, State, and public or private agencies in the conservation and development of fish and wildlife resources affected by water-resource development programs. He is further authorized to make reports and recommendations on wildlife aspects of such projects based on surveys and investigations to be conducted by the Fish and Wildlife Service.

48 Stat. 401; Public Law 121, 73d Cong.; Act of March 10, 1934.
60 Stat. 1080; Public Law 732, 79th Cong.; Act of August 14, 1946.
62 Stat. 497; Public Law 697, 80th Cong.; Act of June 19, 1948.

Acquisition and Disposal of Surplus Fishery Products

15 U.S.C. 713c–2
15 U.S.C. 713c–3
15 U.S.C. 713c–3 Note
7 U.S.C. 612c

Authorized the Secretary of the Interior to retransfer to the Secretary of Agriculture certain funds received from the Secretary of Agriculture for the purpose of diverting surplus fishery products from the normal channels of trade and commerce by acquiring them and providing for their distribution through Federal, State, and private relief channels.

49 Stat. 774; Public Law 320, 74th Cong.; Act of August 24, 1935.
50 Stat. 27; Public Law 15, 75th Cong.; Act of March 5, 1937.
50 Stat. 61; Public Law 22, 75th Cong.; Joint Resolution of April 12, 1937.
52 Stat. 441; Public Law 542, 75th Cong.; Act of May 25, 1938.
53 Stat. 1411; Public Law 393, 76th Cong.; Act of August 11, 1939.
68 Stat. 376; Public Law 466, 83d Cong.; Act of July 1, 1954.

The Northern Pacific Halibut Act of 1937, as Amended

16 U.S.C. 772–772i

Authorized the enforcement of provisions of the Convention between the United States and Canada for the preservation of the halibut fishery of the North Pacific Ocean and the Bering Sea.

50 Stat. 325; Public Law 169, 75th Cong.; Act of June 28, 1937.
67 Stat. 494; Public Law 228, 83d Cong.; Act of August 8, 1953.

Columbia River Basin Fishery Development Program (Sometimes Known as the Mitchell Act)

16 U.S.C. 755–757

Authorized the establishment of salmon cultural stations in Washington, Oregon, and Idaho. Gave authority to conduct necessary investigations and engineering and biological surveys and experiments as necessary to conserve the fishery resources of the Columbia River and its tributaries; construct and install devices in the Columbia River Basin for improving feeding conditions and spawning areas for fish, for protecting migratory fish from irrigation projects, and for facilitating free migration of fish over obstructions; perform all other activities necessary for the conservation of fish in the Columbia River Basin; and utilize the facilities and services of the agencies of the States of Washington, Oregon, and Idaho responsible for the conservation of the fish and wildlife resources in such States in carrying out the authorizations and duties imposed by the Act.

52 Stat. 345; Public Law 502, 75th Cong.; Act of May 11, 1938.
60 Stat. 932; Public Law 676, 79th Cong.; Act of August 8, 1946.

Fishery Educational Service and Market Development

15 U.S.C. 713c–3
7 U.S.C. 612c
16 U.S.C. 742d

Authorized the Secretary of the Interior to promote the free flow of domestically produced fishery products by conducting a fishery educational service and fishery technological, biological, and related research program. He will make continuing investigations and report to the public, the President, and Congress concerning the improvement of production and marketing practices of commercial species and the conduct of fishery education and extension services.

53 Stat. 1412; Public Law 393, 76th Cong.; Act of August 11, 1939.
49 Stat. 774; Public Law 320, 74th Cong.; Act of August 24, 1935.
68 Stat. 376; Public Law 446, 83rd Cong.; Act of July 1, 1954.
70 Stat. 1121; Public Law 1024, 84th Cong.; Act of August 8, 1956.

Atlantic States Marine Fisheries Commission

16 U.S.C. 667a

This Resolution authorized the named States to enter into a compact for cooperative effort and mutual assistance for the uniform, common, or mutual regulation of fishing in the territorial waters and bays and inlets of the Atlantic Ocean on which such named States border or have jurisdiction. The subsequent interstate compact, as amended, (56 Stat. 261, Public Law 539, 77th Cong., Act of May 4, 1942; 64 Stat. 467, Public Law 721, 81st Cong., Act of August 19, 1950) designated the Fish and Wildlife Service as the primary research agency to promote better utilization of the Atlantic coast fish and shellfish resources.

54 Stat. 261; Public Resolution 79, 76th Cong.; Joint Resolution of June 8, 1940.

Protection of Fur Seals (Sometimes Known as the Fur Seal Act of 1944)

16 U.S.C. 631a–631q

Originally implemented the Provisional Fur Seal Agreement between the United States and Canada effected by an exchange of notes signed at Washington on December 8, 1942, and on December 19, 1942. This provisional agreement was later superseded by the Interim Convention on Conservation of North Pacific Fur Seals, signed at Washington on February 9, 1957, by Canada, Japan, the Union of Soviet Socialist Republics, and the United States. The Act authorized the management of the fur seal herd on the Pribilofs or other islands and

the conduct of sealing operations and disposal of products in conjunction therewith; production of byproducts; construction and maintenance of buildings and facilities; establishment of supply depots and furnishing of food, shelter, fuel, clothing, and other necessities of life to native inhabitants, including education; investigation of conditions of seal life on the Pribilofs and other islands and the waters of the North Pacific Ocean frequented by fur seals; and cooperation with other Federal agencies and other governments party to the fur seal agreement.

58 Stat. 100; Public Law 237, 78th Cong.; Act of February 26, 1944.
64 Stat. 1071; Public Law 847, 81st Cong.; Act of September 27, 1950.

Predatory Sea Lampreys in the Great Lakes

16 U.S.C. 921–939c

Authorized prosecution of investigations of the abundance and distribution of sea lampreys, and their effects on fishes; experiments to develop control measures; and a vigorous program for the elimination of sea lamprey populations in the Great Lakes.

60 Stat. 930; Public Law 672, 79th Cong.; Joint Resolution of August 8, 1946.
63 Stat. 616; Public Law 249, 81st Cong.; Act of August 18, 1949.
65 Stat. 131; Public Law 94, 82nd Cong.; Act of July 30, 1951.
66 Stat. 314; Public Law 434, 82nd Cong.; Act of July 1, 1952.

Sockeye Salmon Fishing Act of 1947, As Amended

16 U.S.C. 776–776f

Provided for the enforcement of provisions of the Convention between the United States and Canada for the protection, preservation, and extension of the Fraser River sockeye salmon fishery and for that of the pink salmon fishery as added by a protocol to the Convention.

61 Stat. 511; Public Law 255, 80th Cong.; Act of July 29, 1947.
71 Stat. 293; Public Law 85–102; Act of July 11, 1957.

Investigation of Fishery Resources of Territories and Island Possessions (Sometimes Known as the Farrington Act of 1947)

16 U.S.C. 758–758d

Authorized the study of the high seas fishery resources of the Territories and Island Possessions of the United States in the tropical and subtropical Pacific Ocean.

61 Stat. 726; Public Law 239, 80th Cong.; Act of August 4, 1947.

Rehabilitation of Oyster Beds in Louisiana and Mississippi (1948)

Not codified

Authorized the appropriation of not more than $50,000 to study means and methods best suited to the rehabilitation, replanting, and maintenance of Louisiana and Mississippi oyster beds that might have been or may be destroyed by the operation of the Bonnet Carre Spillway and by the intrusion of fresh water and the blockage of natural passages west of the Mississippi River in the vicinity of Lake Mechant and Bayou Severin, Terrebonne Parish, Louisiana.

62 Stat. 257; Public Law 545, 80th Cong.; Act of May 21, 1948.

Study of Soft- and Hard-Shell Clams

16 U.S.C. 661 Note

Authorized, in cooperation with appropriate State and interstate agencies, comprehensive studies of the soft-shell clam, *Mya arenaria*, and the hard-shell clam, *Venus mercenaria*, with particular respect to biology, propagation, and methods of cultivation of such clams.

62 Stat. 274; Public Law 556, 80th Cong.; Act of May 26, 1948.

Gulf States Marine Fisheries Commission

Not codified

Resolution granting the consent and approval of Congress to an interstate compact relative to the better utilization of the fisheries (marine, shell, and anadromous) of the Gulf coast and creating the Gulf States Marine Fisheries Commission. The compact designated the Fish and Wildlife Service as the primary research agency of the Commission cooperating with the research agencies of each named State.

63 Stat. 70; Public Law 66, 81st Cong.; Joint Resolution of May 19, 1949.

Atlantic Coast Shad Study

16 U.S.C. 759

Authorized a comprehensive and continuing study of the Atlantic coast shad for the purpose of recommending to the Atlantic Coast States, through the Atlantic States Marine Fisheries Commission, measures to be taken to arrest the decline, increase the abundance, and promote wise utilization of such shad resources.

63 Stat. 616; Public Law 249, 81st Cong.; Act of August 18, 1949.

Whaling Convention Act of 1949

16 U.S.C. 916–916 1

Provided for the licensing, enforcement of regulations, and research to assist the International Whaling Commission established by International Convention for the Regulation of Whaling signed at Washington, December 2, 1946.

64 Stat. 421; Public Law 676, 81st Cong.; Act of August 9, 1950.

Atlantic Coast Fish Study for Development and Protection of Fish Resources

16 U.S.C. 760a–760c

Authorized a comprehensive and continuing study of species of fish of the Atlantic coast, including bays, sounds, and tributaries, for the purpose of recommending to the States of the Atlantic coast appropriate measures for the development and protection of such resources and their wisest utilization, whether for sport or commercial fishing or both.

64 Stat. 474; Public Law 730, 81st Cong.; Act of August 25, 1950.

Tuna Convention Act of 1950

16 U.S.C. 951–961

Authorized the conduct of scientific programs at the request of the Inter-American Tropical Tuna Commission established by the Convention.

64 Stat. 777; Public Law 764, 81st Cong.; Act of September 7, 1950.

The Defense Production Act of 1950 as Implemented by Executive Order 10161, dated September 9, 1950; Executive Order 10480, dated August 14, 1953; Defense Food Delegation No. 2; and Defense Food Delegation No. 2, Revision 1

50 App. U.S.C. 2153
3 CFR 1949–1953 Comp., p. 339
3 CFR 1949–1953 Comp., p. 962
15 F.R. 6998
16 F.R. 3311, 3519
17 F.R. 2369

Authorized the President, pursuant to the Defense Production Act, to delegate any power or authority conferred upon him by that Act to any officer or agency of the Government. The President also may authorize any appropriate redelegations of power or authority by that officer or agency. By Executive Order, the

President delegated his authority to the Secretary of Agriculture with respect to food. The Secretary of Agriculture then redelegated his authority relative to the defense functions concerning fishery products to the Secretary of the Interior.
64 Stat. 816; Public Law 774, 81st Cong.; Act of September 8, 1950.

Northwest Atlantic Fisheries Act of 1950

16 U.S.C. 981–991

Authorized enforcement of the provisions of the International Convention for the Northwest Atlantic Fisheries (ICNAF).

64 Stat. 1067; Public Law 845, 81st Cong.; Act of September 27, 1950.

Executive Order No. 10082, October 5, 1949, 14 F.R. 6105, Amended by Executive Order No. 10170, October 12, 1950, 15 F.R. 6901, Amended by Executive Order No. 10741, November 26, 1957, 22 F.R. 9451

19 U.S.C. 1351 Note

The Executive Order No. 10082, as amended by Executive Order No. 10170, provided the Department of the Interior with representation on the Interdepartmental Committee on Trade Agreements and the Committee for Reciprocity Information. Executive Order No. 10741 established the Trade Policy Committee, which includes membership by the Department of the Interior. This Committee makes recommendations to the President on basic policy issues arising in the administration of the trade agreements program, which, as approved by the President, shall guide the Interdepartmental Committee on Trade Agreements. The Bureau of Commercial Fisheries participates in the development of departmental positions in tariff and foreign trade problems affecting fishery products as well as in the work of subcommittees of the Interdepartmental Trade Agreements Committee.

Act of July 1, 1954, as Amended
(Sometimes Known as the Saltonstall-Kennedy, or S–K, Act of 1954)

15 U.S.C. 713c–3
16 U.S.C. 742e

Directed the Secretary of Agriculture to transfer to the Secretary of the Interior, from funds made available under the terms of the Agricultural Adjustment Act of 1935, an amount equal to 30 percent of the gross receipts from customs duties collected on fishery products. Such funds are to be used by the Secretary of the Interior to promote the free flow of fishery products by conducting a fishery educational service and research program including the use of vessels or other facilities; to develop and increase markets for fishery products (see Fishery Educational Service and Market Development, *supra*); and to conduct various types of research pertaining to American fisheries. The Secretary is also authorized to retransfer certain funds to the Secretary of Agriculture to acquire and dispose of surplus fishery products (see Acquisition and Disposal of Surplus Fishery Products, *supra*).

68 Stat. 376; Public Law 466, 83d Cong.; Act of July 1, 1954.
70 Stat. 1122, 1124; Public Law 1024, 84th Cong.; Act of August 8, 1956.

North Pacific Fisheries Act of 1954, as Amended

16 U.S.C. 1021–1032

Authorized cooperation in the conduct of scientific and other programs at the request of the International North Pacific Fisheries Commission and the enforcement of the International Convention for the High Seas Fisheries of the North Pacific Ocean to which the United States, Canada, and Japan are parties.

68 Stat. 698; Public Law 579, 83d Cong.; Act of August 12, 1954.
71 Stat. 310; Public Law 85–114; Act of July 24, 1957.

Great Lakes Fishery Act of 1956

16 U.S.C. 931–939c

Authorized research and control measures for control of lampreys in the Great Lakes by the United States Section of the Great Lakes Fishery Commission established under the provisions of the Convention on Great Lakes Fisheries between the United States and Canada. The Secretary of the Interior is authorized to transfer to the United States Section any lamprey control project or works under his jurisdiction and to act for or on behalf of the United States in the exercise of the powers granted by the Act.
70 Stat. 242; Public Law 557, 84th Cong.; Act of June 4, 1956.

Fishery Education

16 U.S.C. 760d
20 U.S.C. 15j(a)(5)

Authorized grants to educational institutions to promote education and training of scientists, technicians, and teachers needed in the field of commercial fishing. Also amends the Vocational Education Act of 1946 to authorize assistance to States and Territories in the development of vocational education in the fishery trades and industry, such assistance to be apportioned as determined by the United States Commissioner of Education after consultation with the Secretary of the Interior.

70 Stat. 1126; Public Law 1027, 84th Cong.; Act of August 8, 1956.

Fish and Wildlife Act of 1956

16 U.S.C. 742a–742d, 742e–742j
15 U.S.C. 713c–3(e)
15 U.S.C. 713c–3 Note

See Appendix A of this report.

70 Stat. 1119; Public Law 1024, 84th Cong.; August 8, 1956.

3. Laws Which Provide Assistance to the United States Commercial Fishing Industry but Are Not Administered by the Fish and Wildlife Service

Motor Carrier Act of 1935 (Part II of the Interstate Commerce Act)

49 U.S.C. 303(b)(6)

Provided an exemption from certain regulatory provisions of the Interstate Commerce Act, as amended, for motor vehicles transporting fish and shellfish (not including manufactured products thereof) if such vehicles are not used in carrying any other property, or passengers, for compensation.

49 Stat. 545; Public Law 255, 74th Cong.; Act of August 9, 1935.
52 Stat. 1237; Public Law 777, 75th Cong.; Act of June 29, 1938.
54 Stat. 920; Public Law 785, 76th Cong.; Act of September 18, 1940.

Fair Labor Standards Act of 1938, as Amended

29 U.S.C. 213(a)(5), (b)(4)

Provided an exemption from the minimum wage and maximum hours provisions of the Federal wage and hour law (29 U.S.C. 206–207) for any employee employed in the catching, taking, harvesting, cultivating or farming of any kind of fish, shellfish, crustacea, sponges, seaweeds, or other aquatic forms of animal and vegetable life, including the going to and returning from work and including employment in the loading, unloading, or packing of such products for shipment

or in propagating, processing (other than canning), marketing, freezing, curing, storing, or distributing the above products or byproducts. A further exemption was provided from the maximum hours provisions of the law (29 U.S.C. 207) for any employee employed in the canning of any kind of fish, shellfish, or other aquatic forms of animal or vegetable life, or any byproduct thereof.

52 Stat. 1067; Public Law 718, 75th Cong.; Act of June 25, 1938.
63 Stat. 917, 918; Public Law 393, 81st Cong.; Act of October 26, 1949.

Pacific Marine Fisheries Commission

Not codified

Act granted consent and approval of Congress to an interstate compact relating to the better utilization of the fisheries (marine, shell, and anadromous) of the Pacific coast and created the Pacific Marine Fisheries Commission. Purpose of the compact included a joint program of protection and prevention of physical waste of fisheries (marine, shell, and anadromous) in areas of the Pacific Ocean in which the States of California, Oregon, and Washington have jurisdiction jointly or separately. They cannot limit production of fish or fish products for the purpose of establishing or fixing prices or creating and perpetuating a monopoly. The fisheries research agencies of the signatory States act in collaboration as the official research agency of the Pacific Marine Fisheries Commission.

61 Stat. 419; Public Law 232, 80th Cong.; Act of July 24, 1947.

Protection of Vessels on the High Seas and in Territorial Waters of Foreign Countries

22 U.S.C. 1971–1976

Directed the Secretary of State to take such action as he deems appropriate to attend to the welfare of a United States vessel and its crew, and to secure the release of such vessel and crew, in the event of seizure by a foreign country on the basis of rights or claims in territorial waters or the high seas which are not recognized by the United States and there is no dispute of material facts with respect to the location or activity of such vessel at the time of seizure. Authorized reimbursement by the Secretary of the Treasury in the amount certified to him by the Secretary of State to the owners of the vessel for fines actually paid to secure the release of vessel and crew.

68 Stat. 883; Public Law 680, 83d Cong.; Act of August 27, 1954.

Appendix H—Organizations With Which the Bureau Had Contracts in 1957

Organization	*Location*
Alaska Department of Fisheries	Juneau, Alaska
Alaska Fisheries Experimental Commission	Juneau, Alaska
Buffalo, University of	Buffalo, N.Y.
California, University of	Davis, Calif.
California, University of	Berkeley, Calif.
Cincinnati, University of	Cincinnati, Ohio
Delaware, University of	Newark, Del.
Florida Southern College	Lakeland, Fla.
Florida State University	Tallahassee, Fla.
Food, Chemical, and Research Laboratory	Seattle, Wash.
Gulf Coast Research Laboratory	Ocean Springs, Miss.
Hawaii, University of	Honolulu, Hawaii
Lee Productions, Inc.	New York City, N.Y.
Louisiana State University	Baton Rouge, La.
Maine Department of Sea and Shore Fisheries	Augusta, Maine
Maryland, University of	College Park, Md.
Maryland, University of (Maryland State College)	Princess Anne, Md.
Massachusetts Institute of Technology	Cambridge, Mass.
Massachusetts Division of Marine Fisheries	Boston, Mass.
Massachusetts, University of	Amherst, Mass.
Miami, University of (Marine Laboratory)	Coral Gables, Fla.
Michigan, University of	Ann Arbor, Mich.
Minnesota, University of (Hormel Institute)	Austin, Minn.
National Fisheries Institute	Washington, D.C.
North Carolina State College	Raleigh, N.C.
North Carolina, University of	Chapel Hill, N.C.
Oklahoma, University of	Norman, Okla.
Oregon State College	Corvallis, Oreg.
Oyster Institute of North America	Annapolis, Md.
PML Laboratories	Sarasota, Fla.
Phillip R. Park Foundation	San Pedro, Calif.
Rutgers University	Brunswick, N.J.
Scripps Institution of Oceanography	La Jolla, Calif.
Southern California, University of	Los Angeles, Calif.
Sun Dial Films, Inc	New York City, N.Y.
Texas, University of	Austin, Tex.
Tulane University	New Orleans, La.
Virginia Fisheries Laboratory	Gloucester Point, Va.
Washington, University of	Seattle, Wash.
Washington, University of (Fisheries Research Institute)	Seattle, Wash.
Washington State College	Pullman, Wash.
Wisconsin, University of	Madison, Wis.
Woods Hole Oceanographic Institution	Woods Hole, Mass.

Appendix I—Bureau Series and a 1957 List of Publications by Bureau Personnel

The regular, established series of the Fish and Wildlife Service in which Bureau of Commercial Fisheries publications appear are:

Fishery Bulletin.—Technical reports of scientific investigations of fishery biology. The Bulletin of the United States Fish Commission was begun in 1881; it became the Bulletin of the Bureau of Fisheries in 1904 and the Fishery Bulletin of the Fish and Wildlife Service in 1941. Through volume 46, separates were issued as Documents. (The last document was No. 1103.) Beginning with volume 47 in 1931, each separate was issued as a numbered Bulletin. Fishery Bulletin Nos. 112 to 124 (330 p.) of volume 57 were issued in 1957. Bulletins are for sale by the Superintendent of Documents; they are distributed free to libraries and to a limited number of scientific cooperators.

Research Report.—Technical papers reporting the results of scientific investigations with emphasis on their practical application. Included are biological, technological, and economic subjects. These succeeded the Investigational Reports series. Published in 1957 were Nos. 46 and 48–50 (79 p.), dealing with Bureau of Commercial Fisheries projects. They are for sale by the Superintendent of Documents but are distributed free to libraries and to a limited number of cooperators.

Special Scientific Report—Fisheries.—Preliminary or progress reports and reports on scientific investigations of restricted scope. Established as Special Scientific Reports in 1940, Nos. 1 to 67 were issued from that date to 1949, when the new series, Special Scientific Reports—Fisheries, with new serial numbering was started. In 1957 there were 44 (3,975 p.) of these reports published, No. 250 being the last. They are processed from typewritten text to speed publication and are distributed free to libraries and cooperators on a limited mailing list.

Fishery Leaflet.—Popular information on fishery subjects intended primarily for use in correspondence. Twelve leaflets (285 p.) were published during the year. They are distributed free on request.

Circular.—Popular and semitechnical publications of general and regional interest intended to aid conservation and management. Two circulars (94 p.) were issued in 1957. They are usually distributed to depository libraries.

Commercial Fisheries Abstracts.—A monthly abstract of world literature (chiefly English language) on fishery technology. Volume 10 in 1957 had 12 issues (326 p.). They have free, but limited distribution.

Commercial Fisheries Review.—A monthly presentation of developments and news of the domestic and foreign fishery industries. Volume 19 in 1957 had 14 issues (1,094 p.). They have free, but limited distribution.

Test Kitchen Series.—Information on buying, preparing, and cooking fish with tested recipes for institutions, home economists, and housewives. These are intended to promote the use of fish. Two (28 p.) were issued in 1957. They are distributed free.

Statistical Digest.—Annual Statistics with detailed tabulations relating to fishery production, manufacture, and commerce. These succeeded the Administrative Report series. One (446 p.) was published in 1957. They are for sale by the Superintendent of Documents; some are distributed free on a limited mailing list.

Current Fishery Statistics.—Current statistical information on fishery production, manufacture, and domestic or foreign trade, issued monthly, quarterly, or annually, by States, regions, or larger units. In 1957 there were 175 monthly landing reports (584 p.) for 16 States; 27 monthly reports on various manu-

factured products (120 p.); and 27 annual reports of sectional and State operating units, catch statistics, manufactured products, and foreign trade (252 p.).

Fishery Products Report.—Daily (5 times a week), monthly, and annual market news on landings, supplies, prices, and movements of fish and fish products in local areas. Also special supplementary reports are made when needed. Seven Market News Service field offices prepare and mail these free reports. During 1957 the daily reports totalled 5,314 pages; the monthly, 616 pages; annual, 256 pages; and supplementary, 15 pages.

In addition to the regular series of publications, the Bureau also produced some audiovisual materials—films and recordings to promote public interest in fish consumption. Three 16-mm. color films and one recording were made in 1957. The films were: *Fishery Products Standards*, *Fresh out of the Water*, and *Sardines from Maine—Down East Style.* The recording was *Nutritional Value of Fish and Shellfish*, a radio disc and printed script for public service use.

A detailed list of publications of the Bureau of Commercial Fisheries and its personnel during 1957 follows. The articles are listed by authors and are in two groups—those published by the Bureau and those by outside media.

Bureau Publications[1]

Ahlstrom, Elbert H., and David Kramer.

Sardine eggs and larvae and other fish larvae, Pacific coast, 1955. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 224, ii+90 p.

Albano, G. A.

Receipts and prices of fresh and frozen fishery products at Chicago, 1956. Bureau of Commercial Fisheries, Chicago Market News Service, Fishery Products Report, xviii+35 p.

Anderson, William W.

Early development, spawning, growth, and occurrence of the silver mullet (*Mugil curema*) along the South Atlantic coast of the United States. U.S. Fish and Wildlife Service, Fishery Bulletin, vol. 57, no. 119, iii+p. 397–414.

Larval forms of the fresh-water mullet (*Agonostomus monticola*) from the open ocean off the Bahamas and South Atlantic coast of the United States. U.S. Fish and Wildlife Service, Fishery Bulletin, vol. 57, no. 120, ii+p. 415–425.

Anderson, William W., and Jack W. Gehringer.

Physical oceanographic, biological, and chemical data, South Atlantic coast of the United States, *Theodore N. Gill* cruise 3. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 210, iii+208 p.

Physical oceanographic, biological, and chemical data, South Atlantic coast of the United States, M/V *Theodore N. Gill* cruise 4. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 234, iii+192 p.

Applegate, Vernon C., John H. Howell, A. E. Hall, Jr., and Manning A. Smith.

Toxicity of 4,346 chemicals to larval lampreys and fishes. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 207, ii+157 p.

Austin, Thomas S.

Summary, oceanographic and fishery data, Marquesas Islands area, August–September 1956 (EQUAPAC). U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 217, iv+186 p.

[1] This list does not include Commercial Fisheries Abstracts, Current Fishery Statistics, and Commercial Fisheries Review except a few articles for which the authors' names are given.

BAPTIST, JOHN P., OSGOOD R. SMITH, and JOHN W. ROPES.

Migrations of the horseshoe crab, *Limulus polyphemus*, in Plum Island Sound, Mass. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 220, iii+15 p.

BENDER, MAURICE.

Collection and distribution of menhaden oil for research use. Commercial Fisheries Review, vol. 19, no. 4a, p. 1–2.

BIRD, H. R., and N. L. KARRICK.

Determination of unknown growth factors in fish meals by chick-growth tests. Commercial Fisheries Review, vol. 19, no. 5a, p. 1–3.

BROWN, W. DUANE, A. W. VENOLIA, A. L. TAPPEL, H. S. OLCOTT, and M. E. STANSBY.

Oxidative deterioration in fish and fishery products. Part II—Progress on studies concerning mechanism of oxidation of oil in fish tissue. Commercial Fisheries Review, vol. 19, no. 5a, p. 27–31.

BUMPUS, DEAN F.

Surface water temperatures along Atlantic and Gulf coasts of the United States. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 214, ii+153 p.

Oceanographic observations, 1956, east coast of the United States. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 233, iv+132 p.

BUMPUS, DEAN F., and C. GODFREY DAY.

Drift bottle records for Gulf of Maine and Georges Bank, 1931–56. U. S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 242, ii+61 p.

BUREAU OF COMMERCIAL FISHERIES.

Present status of the fish meal quality research undertaken to meet the needs of the industry. Commercial Fisheries Review, vol. 19, no. 5a, p. 38–39.

Technical Note No. 38—A portable fish-meal blender for pilotplant use. Commercial Fisheries Review, vol. 19, no. 6, p. 16–17 [Separate no. 480].

Federal aids to agriculture, merchant marine and other segments of domestic economy—a brief description of some kinds of Federal Government economic and other aids with statutory citations and comments about providing similar aids for the fishing industry. 32 p.

Fishing industry aids in foreign countries—a brief description of some kinds of economic and other aids given by foreign nations to their fishing industries. 74 p.

United States customs receipts from imports of aquatic products for calendar years 1955 and 1956, fiscal years 1955 and 1956, and list of duty-free aquatic products. 18 p.

Canned foods month. 15 p.

Fishery products are being featured during Lent. 17 p.

Join the fish parade. Fisheries Marketing Bulletin, September 18–28, 1957, nos. 1–7, each 1 p., no. 8, 12 p.

Tuna supplies are plentiful and economical. Fisheries Marketing Bulletin, October 31–November 9, 1957, 13 p., nos. 2–7 each 1 p.

List of fishery associations in the United States. U.S. Fish and Wildlife Service, Fishery Leaflet, no. 254 (revised), 13 p.

List of fishery cooperatives in the United States. U.S. Fish and Wildlife Service, Fishery Leaflet, no. 292 (revised), 5 p.

List of fishermen's and fish shore workers' unions in the United States. U.S. Fish and Wildlife Service, Fishery Leaflet, no. 293 (revised), 8 p.

Bureau of Commercial Fisheries, Boston Market News Service.

Boston fishery products monthly summary (1957). Twelve issues, January to December, total 179 p.

Bureau of Commercial Fisheries, Branch of Market Development.

Commercial fisheries outlook. U.S. Fish and Wildlife Service, Fishery Leaflet, no. 336*ee*, January–March 1951, 41 p.; no. 336*ff*, April–June 1957, 43 p.; no. 336*gg*, July–September 1957, 43 p.; no. 336*hh*, October–December 1957, 48 p.

Bureau of Commercial Fisheries, Chicago Market News Service.

Monthly summary of Chicago's fresh and frozen fishery products. Receipts and wholesale market prices (1957). Twelve issues, January to December, total 145 p.

Halibut market developments at Chicago, 1954–56. Special Market News Report, 6 p.

Bureau of Commercial Fisheries, Hampton Market News Service.

Monthly summary of fishery products production in selected areas of Virginia, North Carolina, and Maryland (1957). Twelve issues, January to December, total 48 p.

Bureau of Commercial Fisheries, New Orleans Market News Service.

Gulf monthly landings, production, and shipments of fishery products (1957). Twelve issues, January to December, total 60 p.

Bureau of Commercial Fisheries, New York Market News Service.

Monthly summary receipts of fishery products at the New York City wholesale salt-water market (1957). Twelve issues, January to December, total 197 p.

Bureau of Commercial Fisheries, San Pedro Market News Service.

California fishery products monthly summary (1957). Twelve issues, January to December, 118 p.

Bureau of Commercial Fisheries, Seattle Market News Service.

Monthly summary—fishery products (1957). Four issues, January to April, total 16 p.

Monthly summary of Seattle's fresh and frozen fishery products, including meals and oils and monthly summary of Astoria's (Oregon) fresh and frozen fishery products (1957). Eight issues, May to December, total 60 p.

Supplementary Market News Reports, 9 p.

Burtis, Jean, Ellen H. Nagy, and Rose G. Kerr.

How to cook lobsters, U.S. Fish and Wildlife Service, Test Kitchen Series, no. 11, 14 p.

Callaway, Richard J.

Oceanographic and meterological observations in the northeast and central North Pacific, July–December 1956. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 230, iv+49 p.

Carver, Joseph H.

Commercial uses for menhaden oil. Commercial Fisheries Review, vol 19, no. 4a, p. 3–4.

New England fish meals in the national fish-meal research program. Commercial Fisheries Review, vol. 19, no 5a, p. 10–13.

CLEMENS, HOWARD P., and KERMIT E. SNEED.
Spawning behavior of the channel catfish, *Ictalurus punctatus*. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 219, iii+11 p.

COCCA, F. J.
Some factors affecting "sawdust" losses during the cutting of fish sticks. Commercial Fisheries Review, vol. 19, no. 2, p. 1–6 [Separate no. 468].

COLLIER, ALBERT.
Gulf–II semiautomatic plankton sampler for inboard use. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 199, iii+11 p.

COOKE, S. R. B., and M. E. STANSBY.
Utilization of fish oils in ore flotation. Commercial Fisheries Review, vol. 19, no. 4a, p. 24–29.

DANFORTH, WARNER C., and CHRIS A. THEODORE.
Hull insurance and protection and indemnity insurance of commercial fishing vessels. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 241, x+337 p.

DAVIS, WILLIAM S.
Ova production of American shad in Atlantic coast rivers. U.S. Fish and Wildlife Service, Research Report No. 49, ii+5 p.

DAWSON, C. E.
Studies on the marking of commercial shrimp with biological stains. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 231, iii+24 p.

EINSET, E., H. S. OLCOTT, and M. E. STANSBY.
Oxidative deterioration in fish and fishery products. Part IV—Progress on studies concerning oxidation of extracted oils. Commercial Fisheries Review, vol. 19, no. 5a, p. 35–37.

ELGIN, LOIS C., KATHRYN L. OSTERHAUG, and THELMA S. ROSE.
How to cook frozen fish without prethawing. Part II—The effect of oven temperature on cooking time for frozen halibut steaks. Commercial Fisheries Review, vol. 19, no. 7, p. 1–4 [Separate no. 481].

ERSHOFF, B. H., and E. GEIGER.
Development of methods for bioassay of growth factors present in fishery industrial products—preliminary investigation of presence of unidentified nutritional factors. Commercial Fisheries Review, vol. 19, no. 5a, p. 4–6.

ESCHMEYER, PAUL H.
The lake trout (*Salvelinus namaycush*). U.S. Fish and Wildlife Service, Fishery Leaflet, no. 441, 11 p.

FARRIN, ALVA E., LESLIE W. SCATTERGOOD, and CARL J. SINDERMANN.
Maintenance of immature sea herring in captivity. The Progressive Fish-Culturist, vol. 19, no. 4, p. 188–189.

FINGERMAN, MILTON, and LAURENCE D. FAIRBANKS.
Structure and function of the kidney in the oyster. Commercial Fisheries Review, vol. 19, no. 11, p. 10 [Separate no. 492].

FINGERMAN, MILTON, LAURENCE D. FAIRBANKS, and WARREN C. PLAUCHE.
Body fluid losses of northern and southern oysters. Commercial Fisheries Review, vol. 19, no. 9, p. 16–18 [Separate no. 486].

FLEMINGER, ABRAHAM.
New genus and two new species of Tharybidae (*Copepoda calanoida*) from the Gulf of Mexico with remarks on the status of the family. U.S.

FLEMINGER, ABRAHAM—Continued
Fish and Wildlife Service, Fishery Bulletin, vol. 57, no. 116, ii+p. 347–354.
New calanoid copepods of the families Aetideidae, Euchaetidae, and Stephidae from the Gulf of Mexico. U.S. Fish and Wildlife Service, Fishery Bulletin, vol. 57, no. 117, ii+p. 355–363.

FRASCATORE, ANTHONY J., JR.
Determining fish content of frozen fried fish sticks—technical note No. 36. Commercial Fisheries Review, vol. 19, no. 1, p. 30–33 [Separate no. 461].

GANGMARK, HAROLD A.
Fluctuations in abundance of Columbia River chinook salmon, 1928–54. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 189, iii+21 p.

GRAHAM, JOSEPH H.
Central North Pacific albacore surveys, May to November 1955. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 212, v+38 p.

GREENBANK, JOHN.
Creel census on the upper Mississippi River. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 202, iv+59 p.

GREENWOOD, MELVIN R.
Bottom trawling exploration in the Strait of Juan de Fuca—February to March 1956. Commercial Fisheries Review, vol. 19, no. 3, p. 1–10 [Separate no. 4721].

GRUGER, EDWARD H., JR.
New products from fish oils. Part III—Preparation and separation of fatty alcohols made from fish oils—a preliminary study. Commercial Fisheries Review, vol. 19, no. 4a, p. 13–17.
New products from fish oils. Part IV—Preliminary investigations on alkyl halides, silicones, and quaternary ammonium salts. Commercial Fisheries Review, vol. 19, no. 4a, p. 18–23.
Laboratory method of obtaining unsaturated fatty alcohols from fish oils. Commercial Fisheries Review, vol. 19, no. 8, p. 1–5 [Separate no. 483].

HIDA, THOMAS S.
Chaetognaths and pteropods as biological indicators in the North Pacific. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 215, iv+13 p.

HILE, RALPH.
U.S. Federal fishery research on the Great Lakes through 1956. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 226, iii+46 p.

HIPKINS, FRED W.
The Dungeness crab industry. U.S. Fish and Wildlife Service, Fishery Leaflet, no. 439, 12 p.
Lobster and oyster culture at Prince Rupert, B.C. Commercial Fisheries Review, vol. 19, no. 9, p. 62–64 [Separate no. 488].

IVERSEN, EDWIN S., and HOWARD O. YOSHIDA.
Longline and troll fishing for tuna in the central equatorial Pacific, January 1955 to February 1956. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 203, iii+38 p.

JUNE, FRED C., and JOHN W. REINTJES.
Survey of the ocean fisheries off Delaware Bay. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 222, iv+55 p.

KARRICK, NEVA L.

Progress on fish-meal nutritive value studies. Commercial Fisheries Review, vol. 19, no. 5, p. 17–18 [Separate no. 478].

KARRICK, NEVA L., WILLIAM CLEGG, and M. E. STANSBY.

Vitamin content of fishery byproducts. Part 3—Riboflavin, nicotinic acid, vitamin B_{12}, moisture, oil, ash, and protein content of commercial fish meals. Commercial Fisheries Review, vol. 19, no. 5a, p. 14–23.

KEILMAN, L. A.

Production of fishery products in selected areas of Alabama, Florida, Louisiana, Mississippi, and Texas, 1956. Bureau of Commercial Fisheries, New Orleans Market News Service, Fishery Products Report, ii+25 p.

KELLY, WILLIAM N.

Production of fishery products in selected areas of Virginia, Maryland, and North Carolina, 1956. Bureau of Commercial Fisheries, Hampton Market News Service, Fishery Products Report, xxii+18 p.

KERN, JEROME.

Use of bacterial culture to aid separation of menhaden oil in gravity tanks—technical note No. 37. Commercial Fisheries Review, vol. 19, no. 5, p. 15–16 [Separate no. 478].

Bacterial studies of frozen raw breaded shrimp—technical note No. 41. Commercial Fisheries Review, vol. 19, no. 12, p. 11–14 [Separate no. 495].

KING, JOSEPH E., THOMAS S. AUSTIN, and MAXWELL S. DOTY.

Preliminary report on expedition EASTROPIC. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 201, iv+155 p.

KING, JOSEPH E., and THOMAS S. HIDA.

Zooplankton abundance in the central Pacific, Part II. U.S. Fish and Wildlife Service, Fishery Bulletin, vol. 57, no. 118, iii+p. 365–395.

Zooplankton abundance in Hawaiian waters, 1953–54. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 221, iv+23 p.

KING, JOSEPH E., and PETER T. WILSON.

Studies on *Tilapia* as skipjack bait. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 225, iv+8 p.

KYTE, ROBERT M.

Enzymes as an aid in separating oil from protein in salmon eggs. Commercial Fisheries Review, vol. 19, no. 4a, p. 30–34.

Bulk handling of Alaska herring meal. Commercial Fisheries Review, vol. 19, no. 5, p. 9–14 [Separate no. 477].

LEWIS, ROBERT MINTURN.

Comparative study of populations of the striped bass. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 204, iii+54 p.

LIEBMAN, HARMON L., GEORGE KUDO, JULIA G. CHAPEL, and JOSEPH A. STERN.

Effects of temperature upon the storage life of fresh shucked Pacific oysters (*Ostrea gigas*). Commercial Fisheries Review, vol. 19, no. 12, p. 1–4 [Separate no. 493].

LINDNER, MILTON J.

Survey of shrimp fisheries of Central and South America. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 235, v+166 p.

LONG, CLIFFORD W., and RAYMOND A. ARZYLOWICZ.

Photographic device for accurately measuring fish. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 228, iii+17 p.

LUND, WILLIAM A., JR.
Morphometric study of the striped bass, *Roccus saxatilis*. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 216, iii+24 p.

LUNDBERG, W. O.
Fish oil research at the Hormel Institute. Commercial Fisheries Review, vol. 19, no. 4a, p. 5–8.

MACGREGOR, JOHN S.
Fecundity of the Pacific sardine (*Sardinops caerulea*). U.S. Fish and Wildlife Service, Fishery Bulletin, vol. 57, no. 121, iii+p. 427–449.

MARR, JOHN C. (COORDINATOR)
Contributions to the study of subpopulations of fishes. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 208, ii+129 p.

MCGARY, JAMES W., and THOMAS M. NAITO.
Wind atlas of the North Pacific. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 243, iii+35 p.

MCKEE, LYNNE G.
Frozen tuna sampler—technical note No. 39. Commercial Fisheries Review, vol. 19, no. 7, p. 7–9 [Separate no. 482].

MIYAKE, IWAO, and WALTER R. STEIGER.
The response of tuna and other fish to electrical stimuli. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 223, iv+23 p.

MIYAUCHI, DAVID T., and DONALD C. MALINS.
Chemical compounds formed during the spoilage of fish. Commercial Fisheries Review, vol. 19, no. 1, p. 26–29 [Separate no. 466].

MORRISON, GEORGE S., and FLETCHER P. VEITCH.
An investigation of the chemistry of texture changes of frozen blue crab meat. Commercial Fisheries Review, vol. 19, no. 10, 1–5 [Separate no. 489].

NAKATSU, LORRY M.
A review of the soupfin shark fishery of the Pacific coast. Commercial Fisheries Review, vol. 19, no. 12, p. 5–8 [Separate no. 494].

NAUGHTON, JOHN J., MICHAEL M. FRODYMA, and HARRY ZEITLIN.
Further studies on green or offcolor condition in precooked yellowfin tuna. U.S. Fish and Wildlife Service, Special Scientific Report—Fisheries No. 247, iv+13 p.

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Feeding study with menhaden presscake. Commercial Fisheries Review, vol. 19, no. 4, p. 11–12.

O'BRIEN, JOHN J.
Landings and prices of fishery products, Boston Fish Pier, 1956. Bureau of Commercial Fisheries, Boston Market News Service, Fishery Products Report, xiv+11 p.

OLDFIELD, J. E., ALLEN F. ANGLEMIER, and M. E. STANSBY.
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